Keys for Successful Negotiation of Retrograde Approach

Toyohashi Heart Center

Kenya Nasu, MD, FACC

Basics of Retrograde approach

1. **Preparation for Retrograde approach**
2. **Tip and tricks of channel selection**
3. **Wire crossing**

Preparation for Retrograde approach

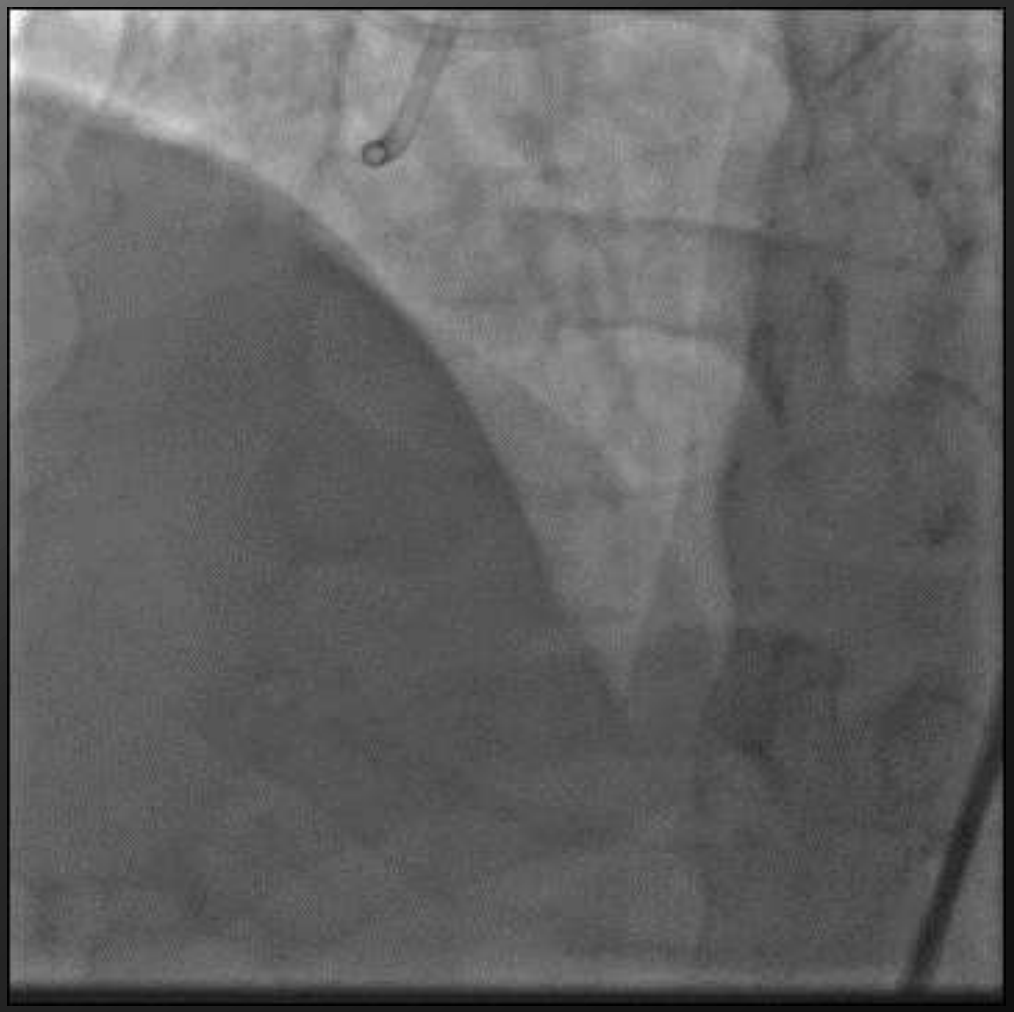
1. > 7Fr system for retrograde approach
2. Microcatheter（Corsair is recommended)
3. Guide wire to select channel (SION, SION blue, or XT-R etc)
4. IVUS (Eagle-eye is recommended)
5. 330cm guide wire (RG3) for externalization
6. ACT monitoring and flush guiding catheter

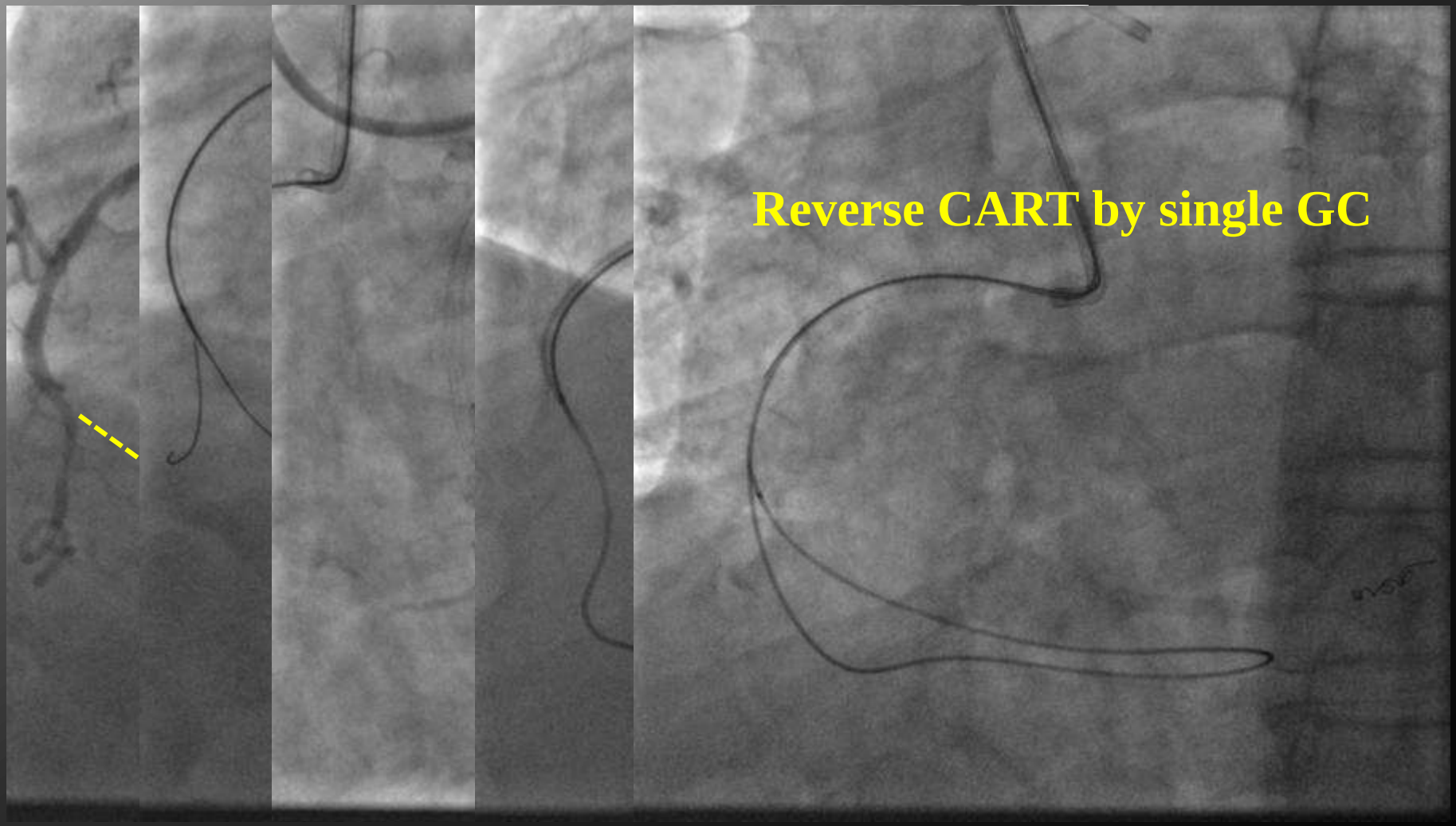
Complication in Retrograde approach
Thrombus in GC

RCA CTO

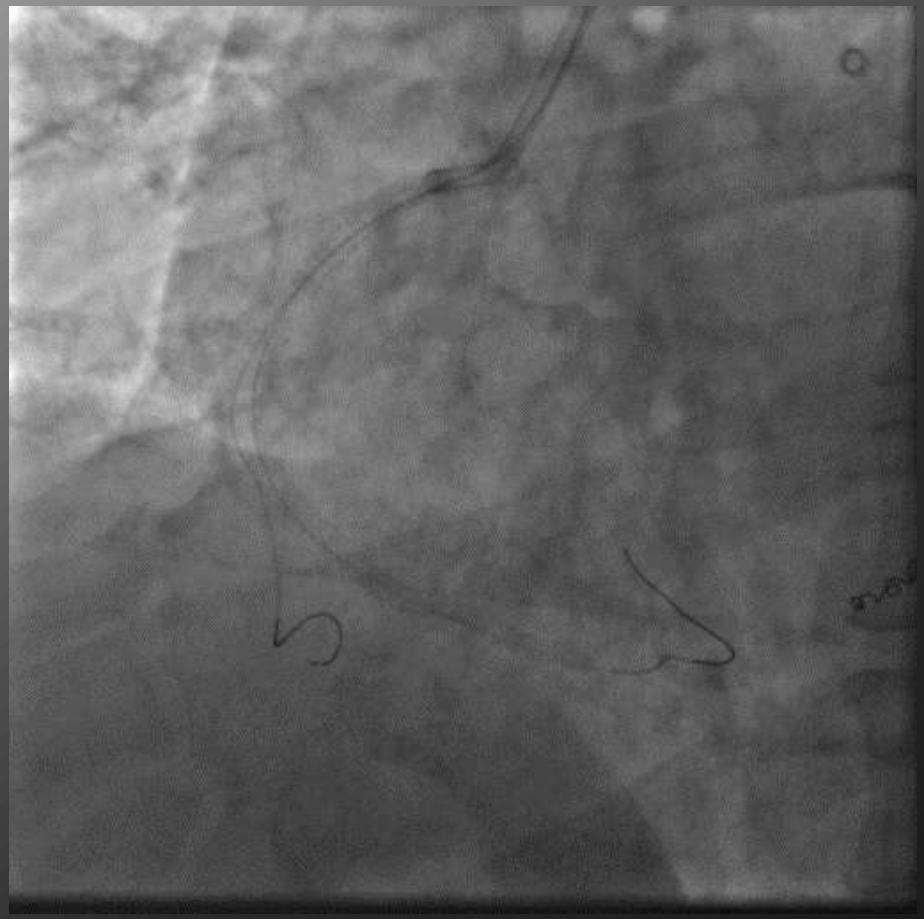
Procedure time was 6.5 hours

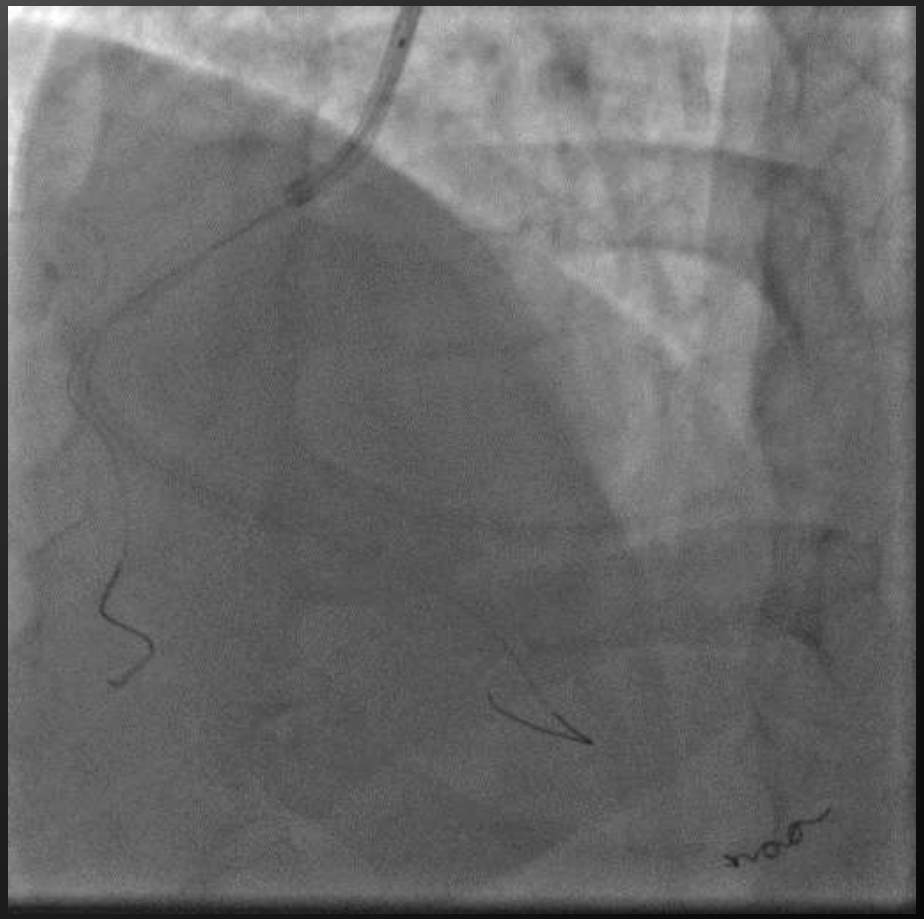
ACT was checked every 30 minutes and kept >300sec

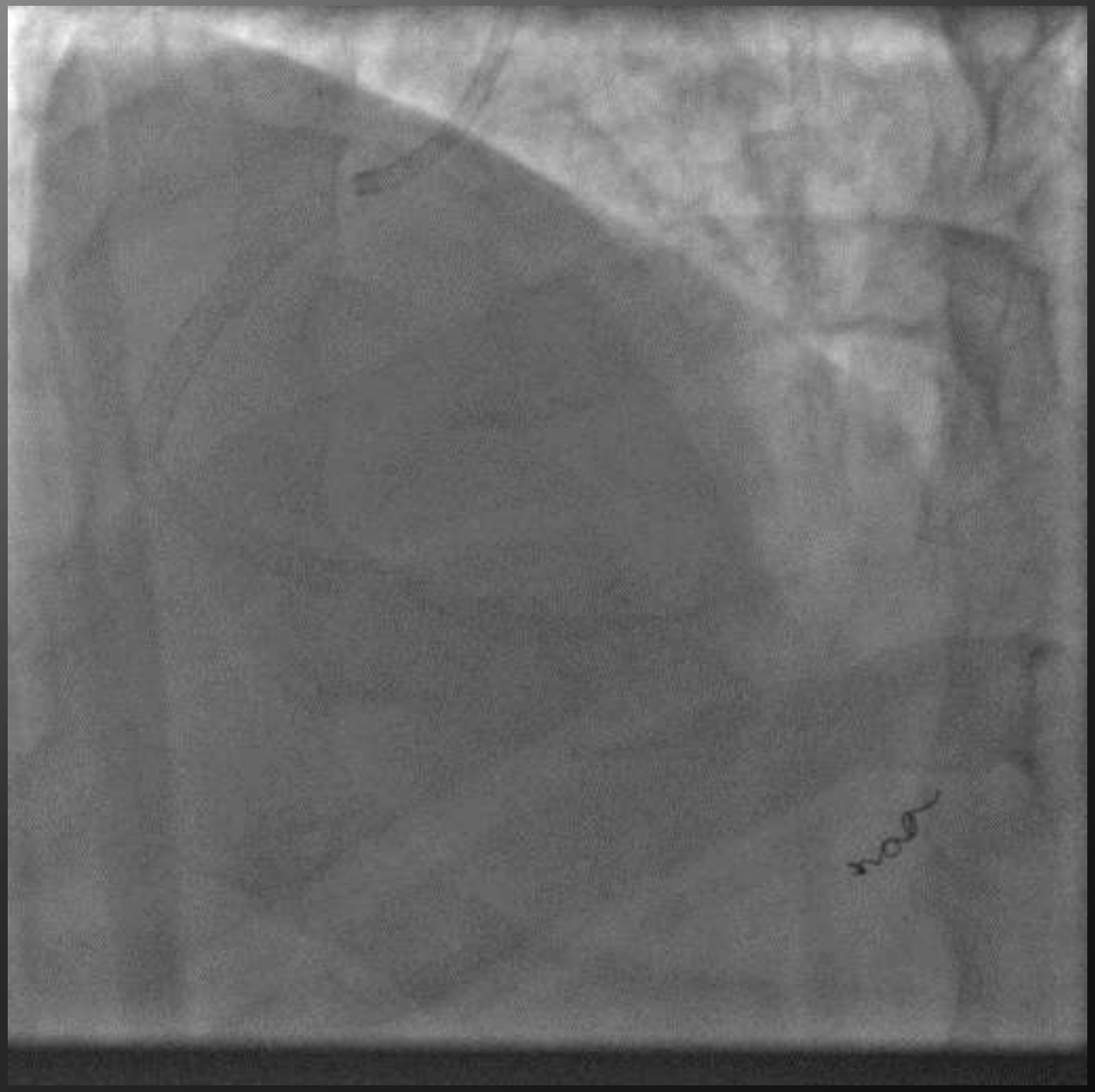




Retro from RV branch





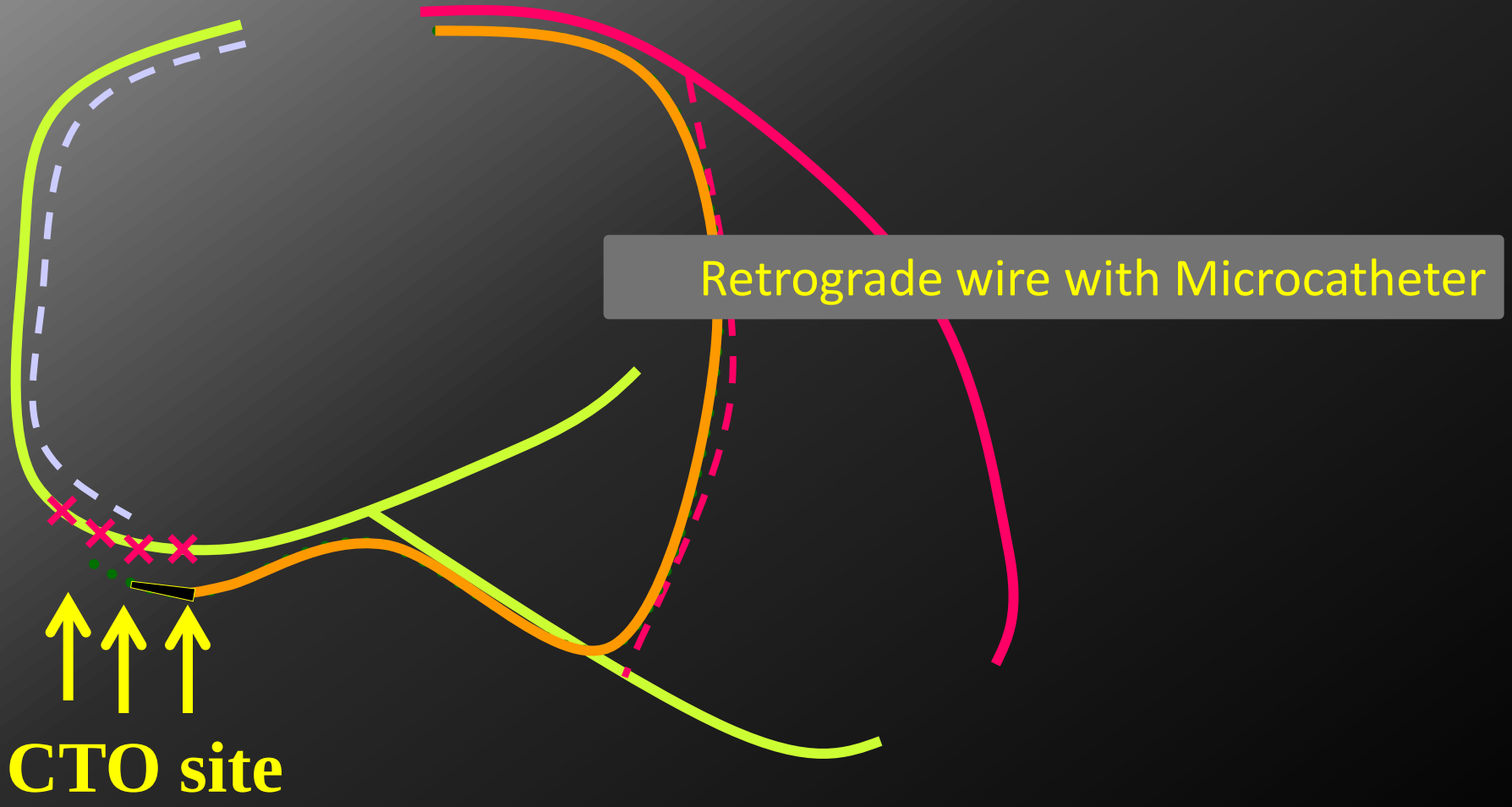


Toyohashi Heart

How to prevent complication of CTO PCI

1. ACT should be kept >300sec
2. ACT should be cheked every 30 minutes.
3. Flush saline every 10 minutes for retro GC.
4. Single GC strategy is not recommended.

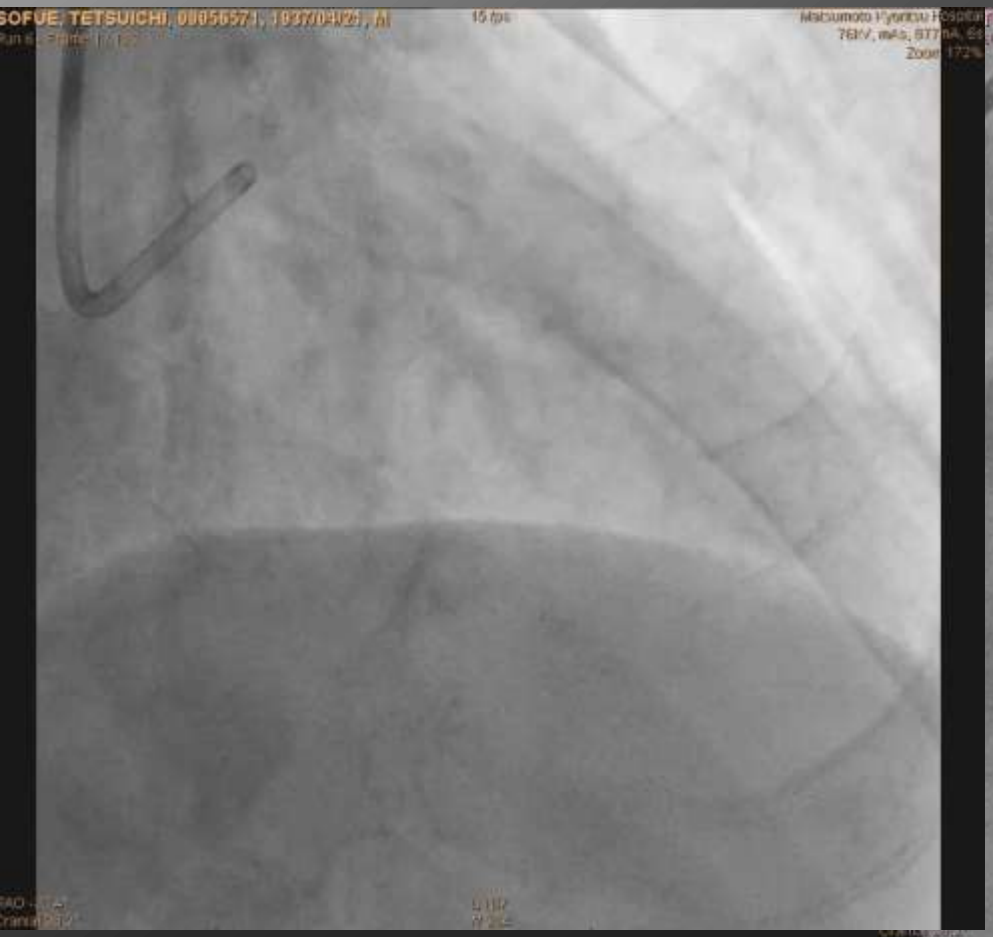
Channel selection



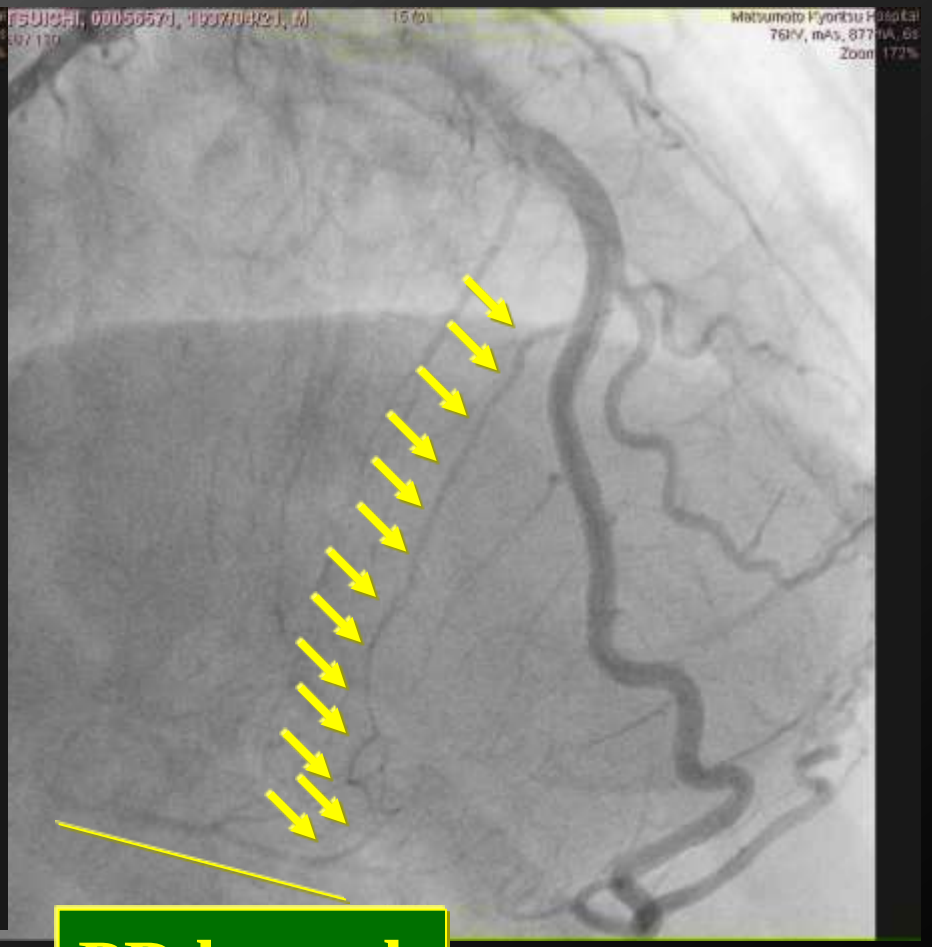
Basics of Retrograde approach

1. Preparation for Retrograde approach
2. Tip and tricks of channel selection
3. Wire crossing

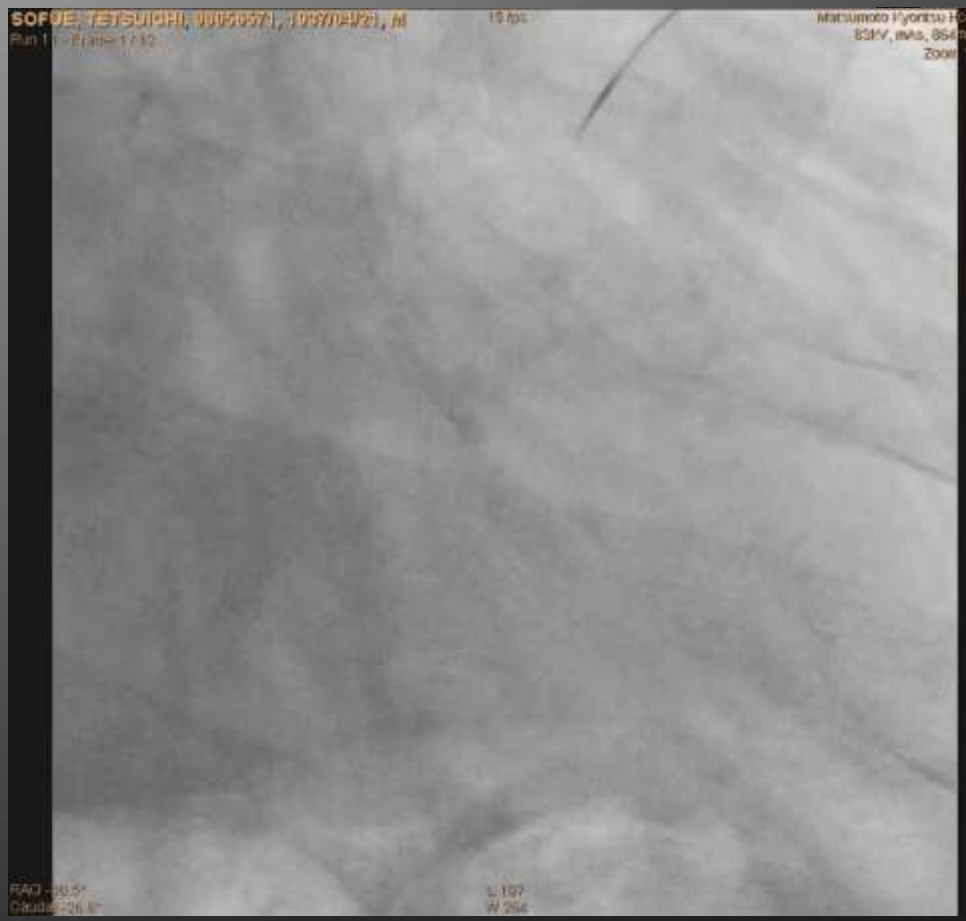
Angiographic view is very inportant!

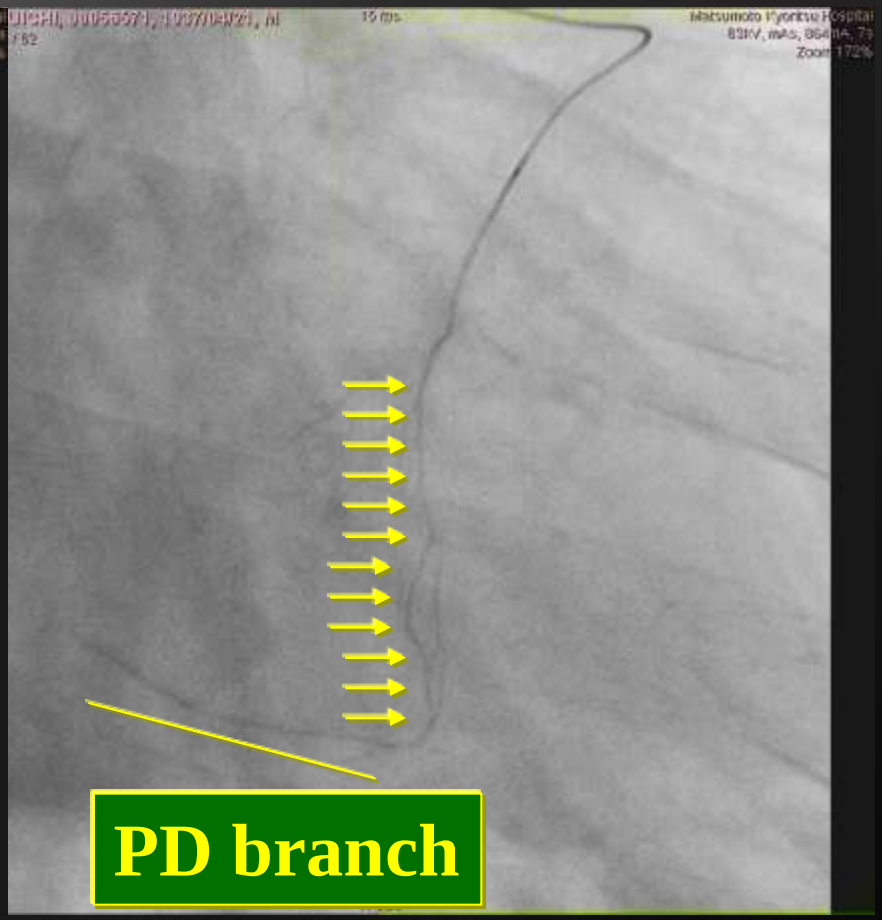


RAO CRA



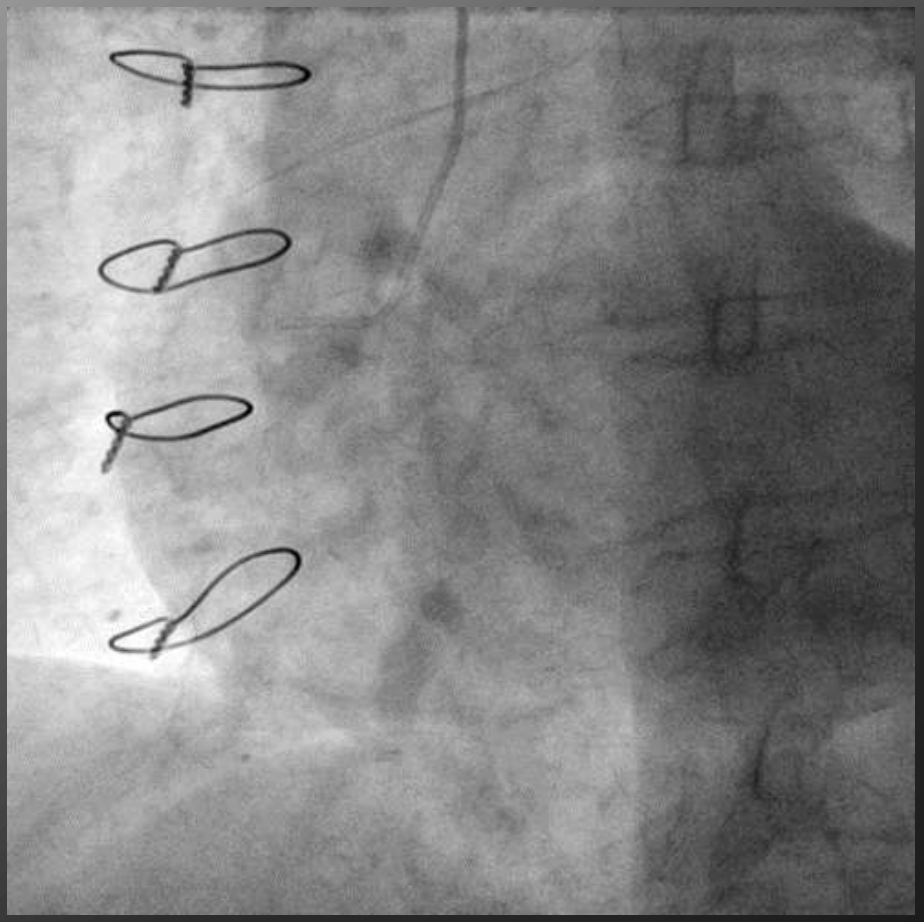
Angiographic view is very inportant!

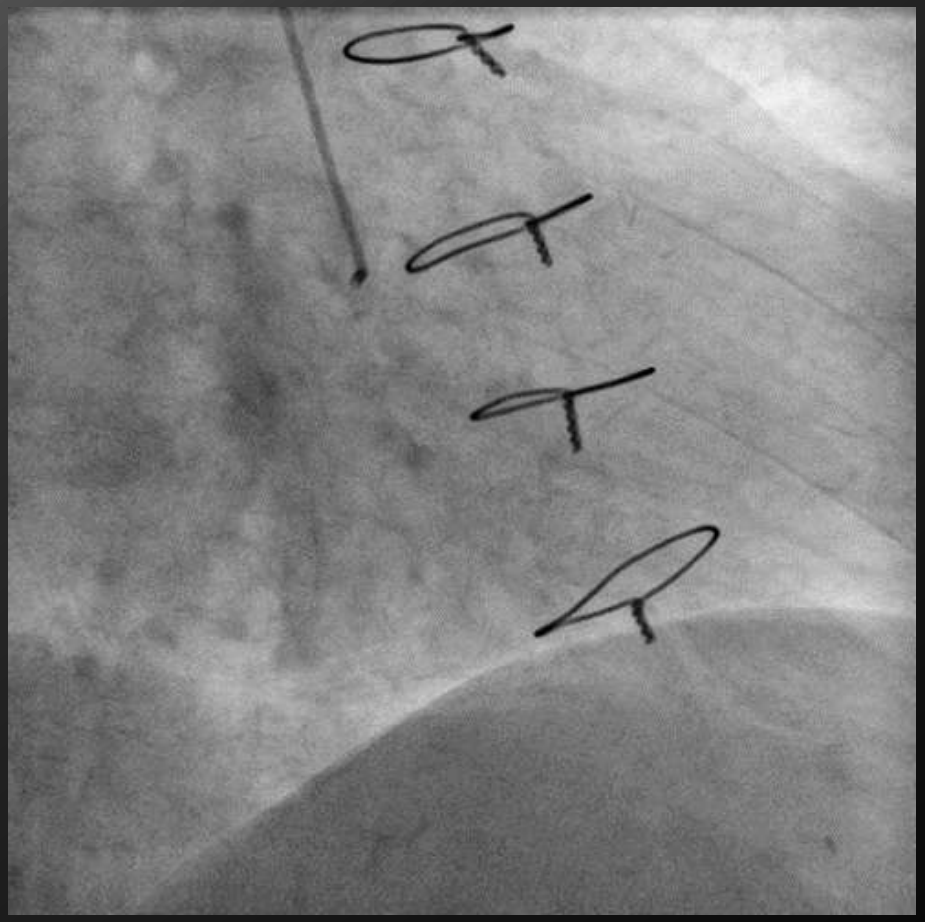




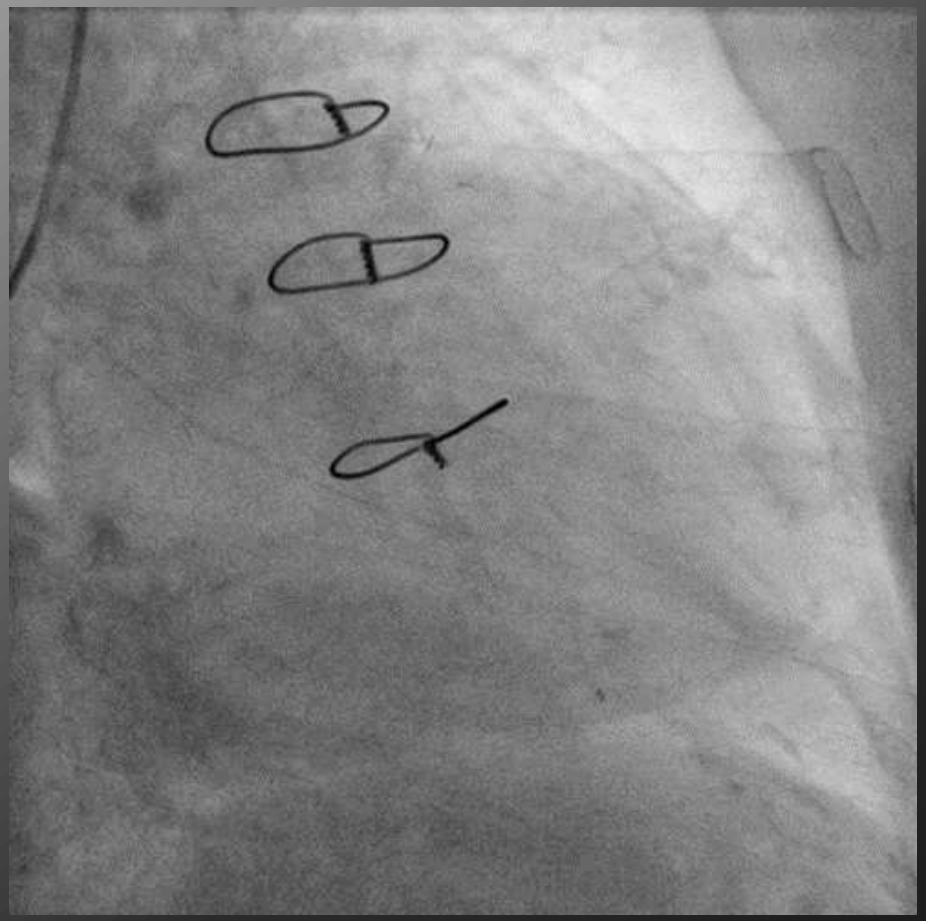
RAO CAU

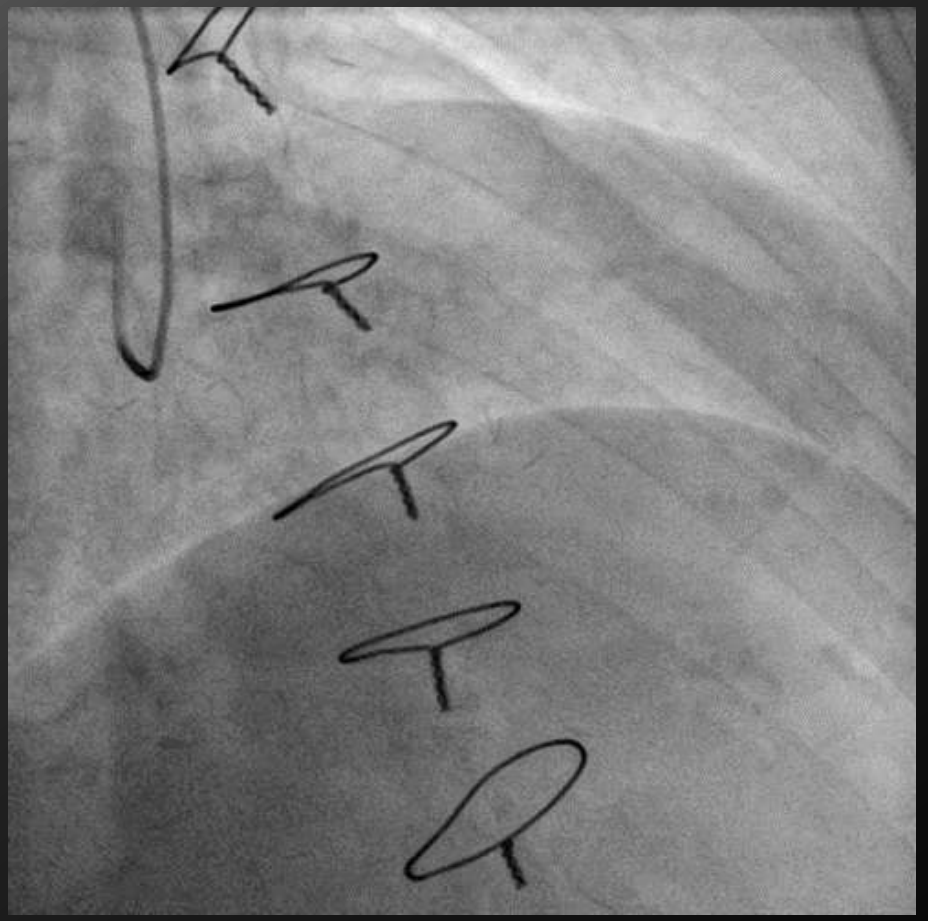
Case 2 RCA CTO

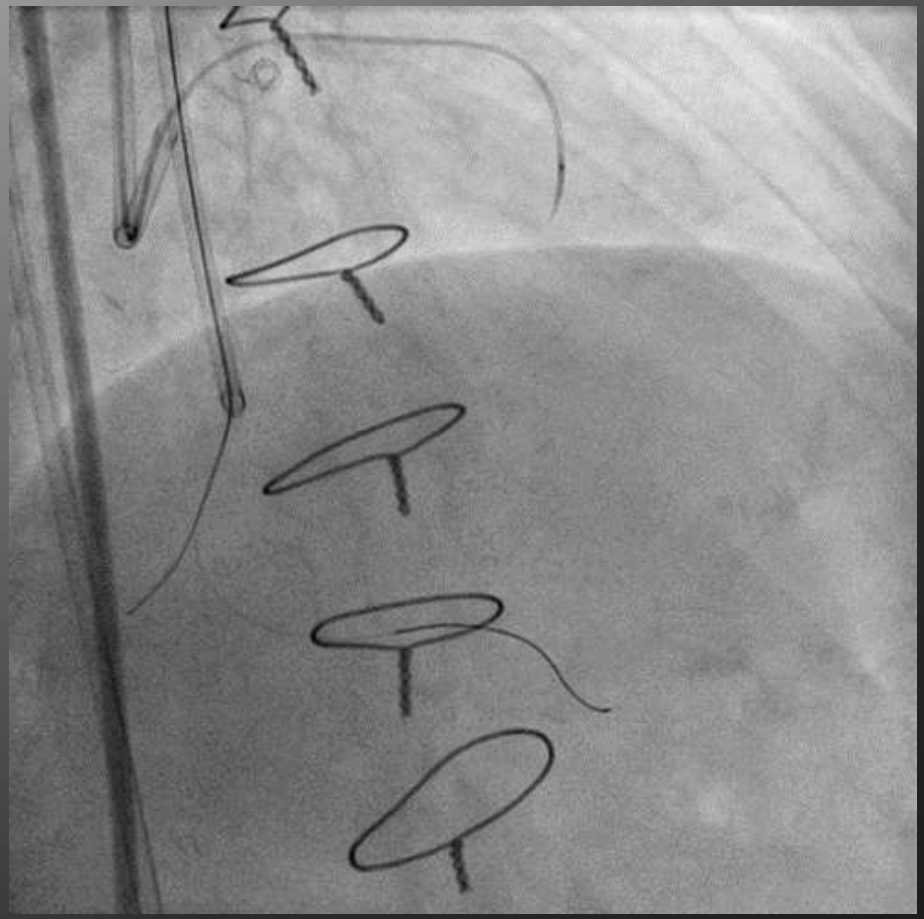


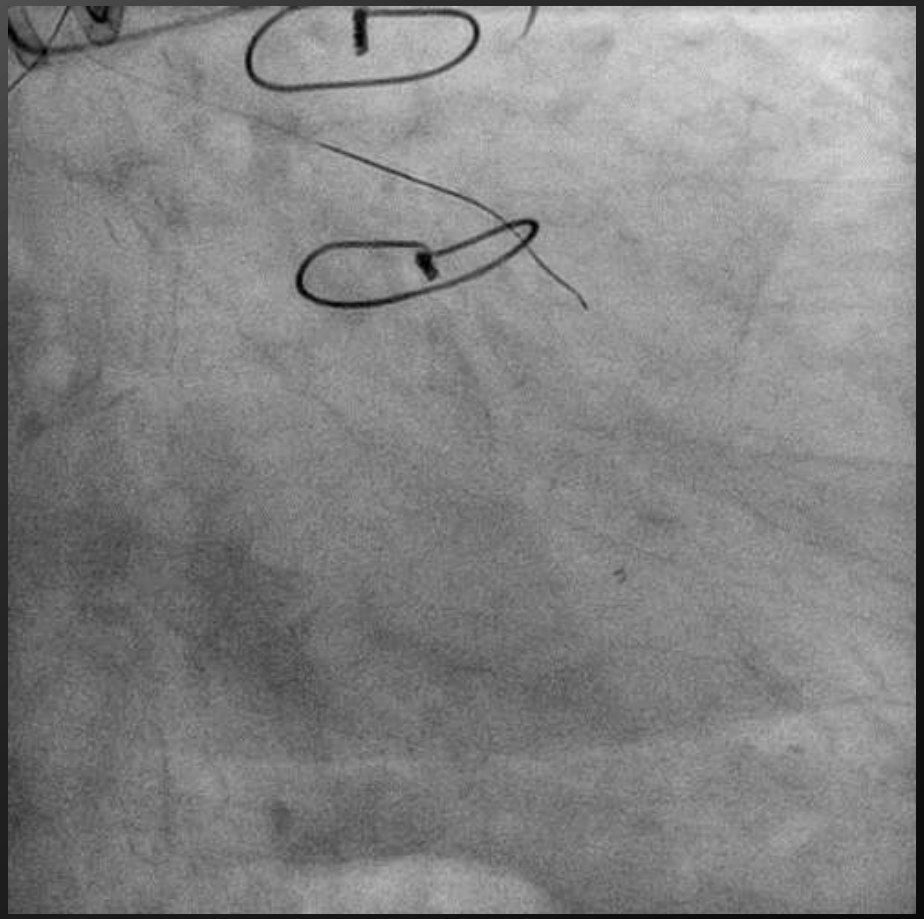


Case 2 RCA CTO



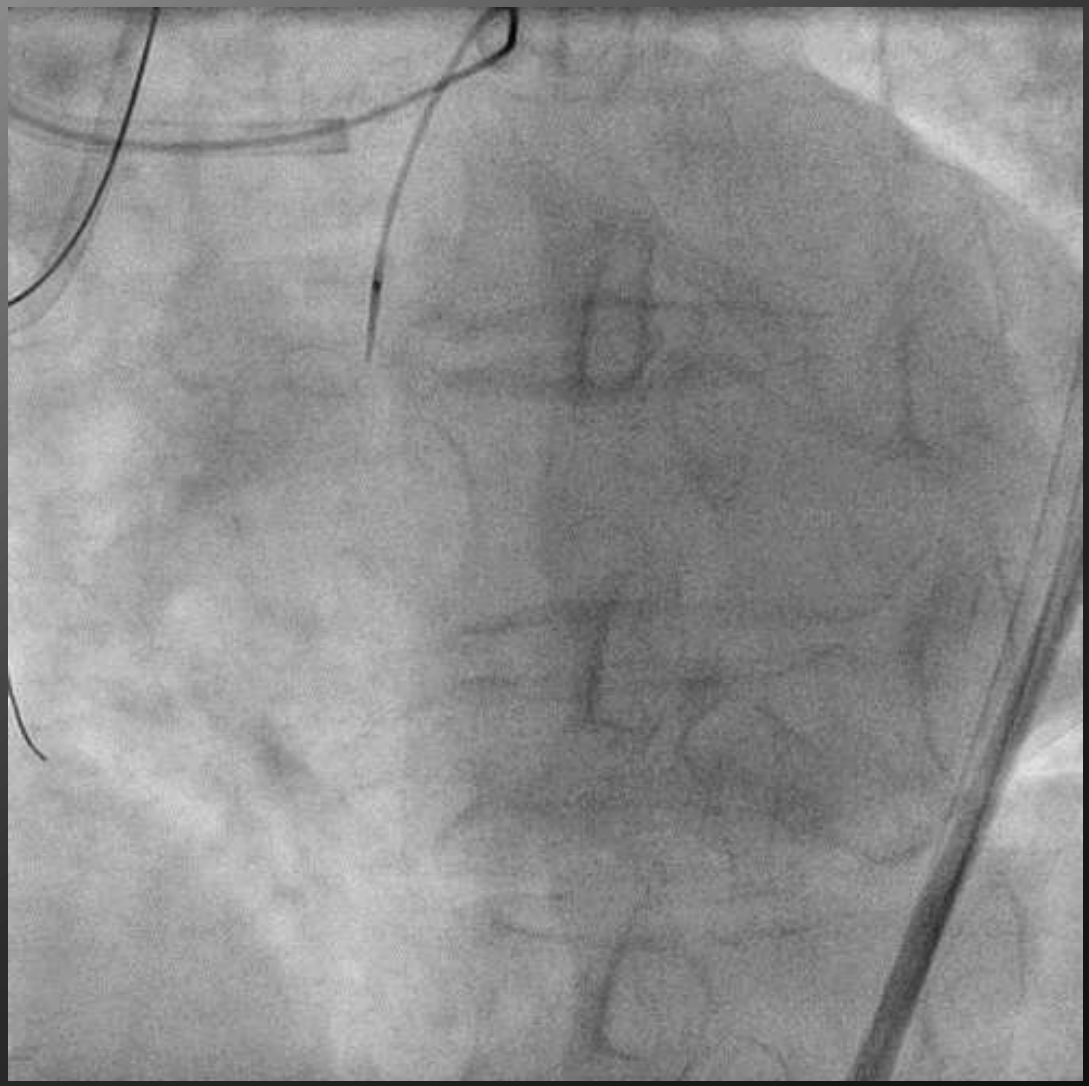




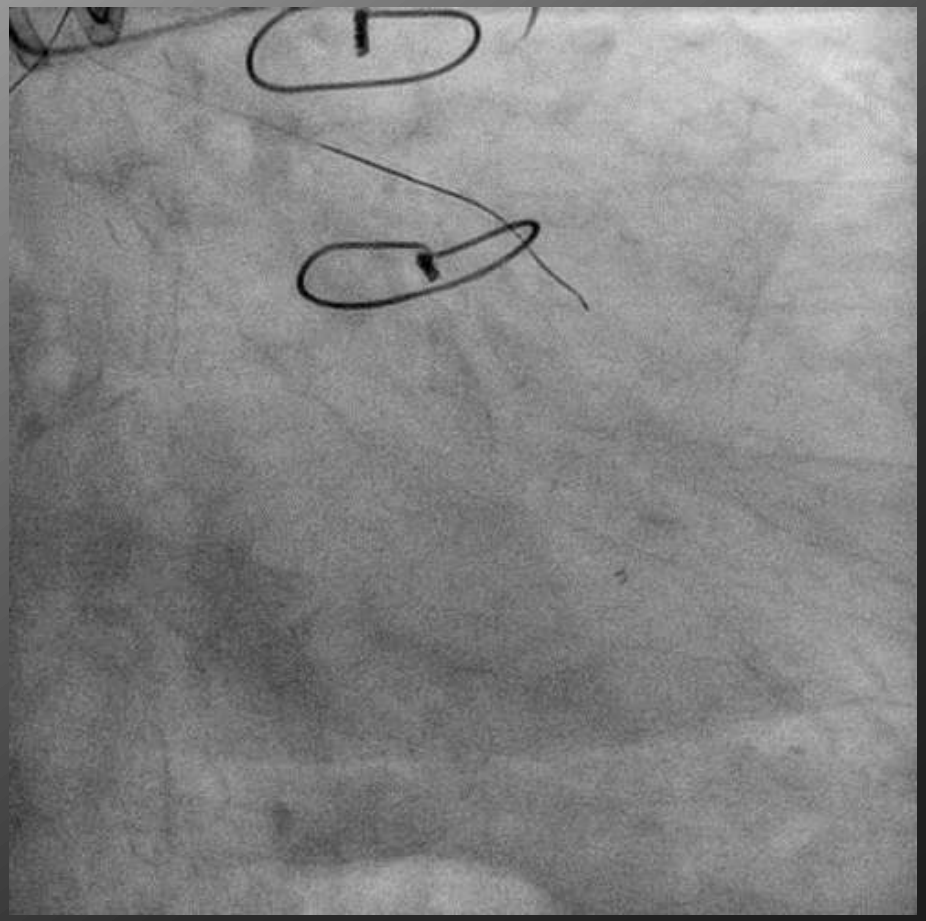


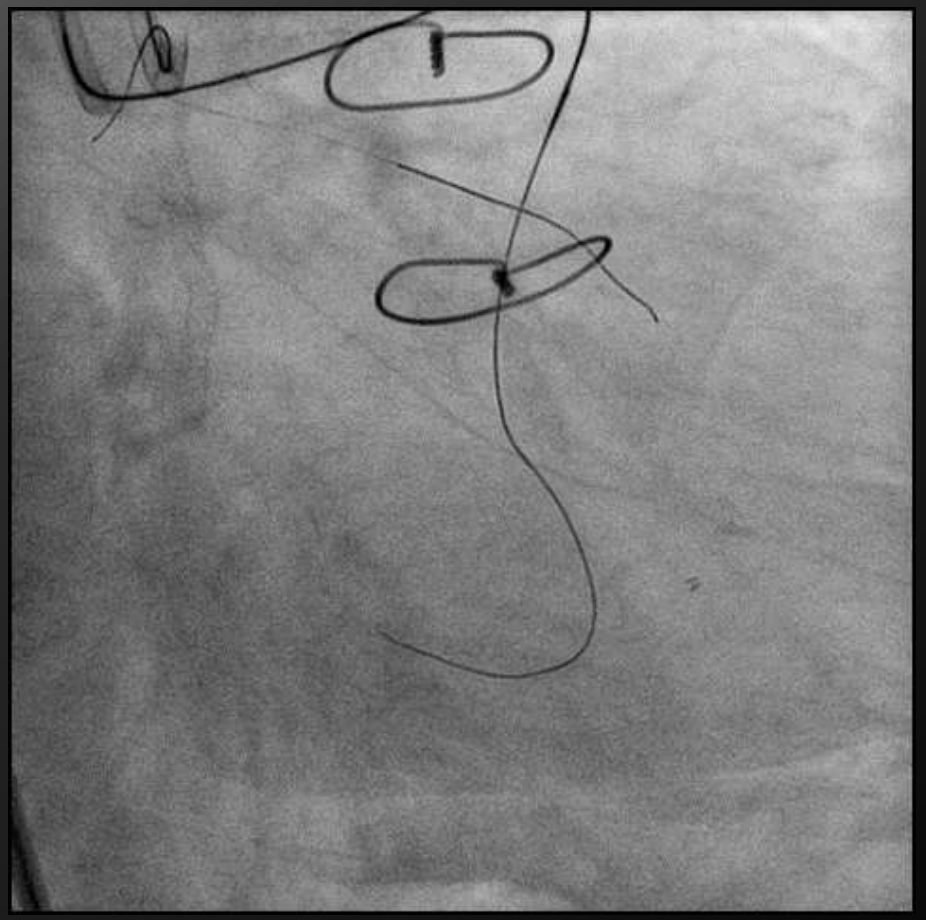
RAO CRA

RAO CAU



LAO CRA





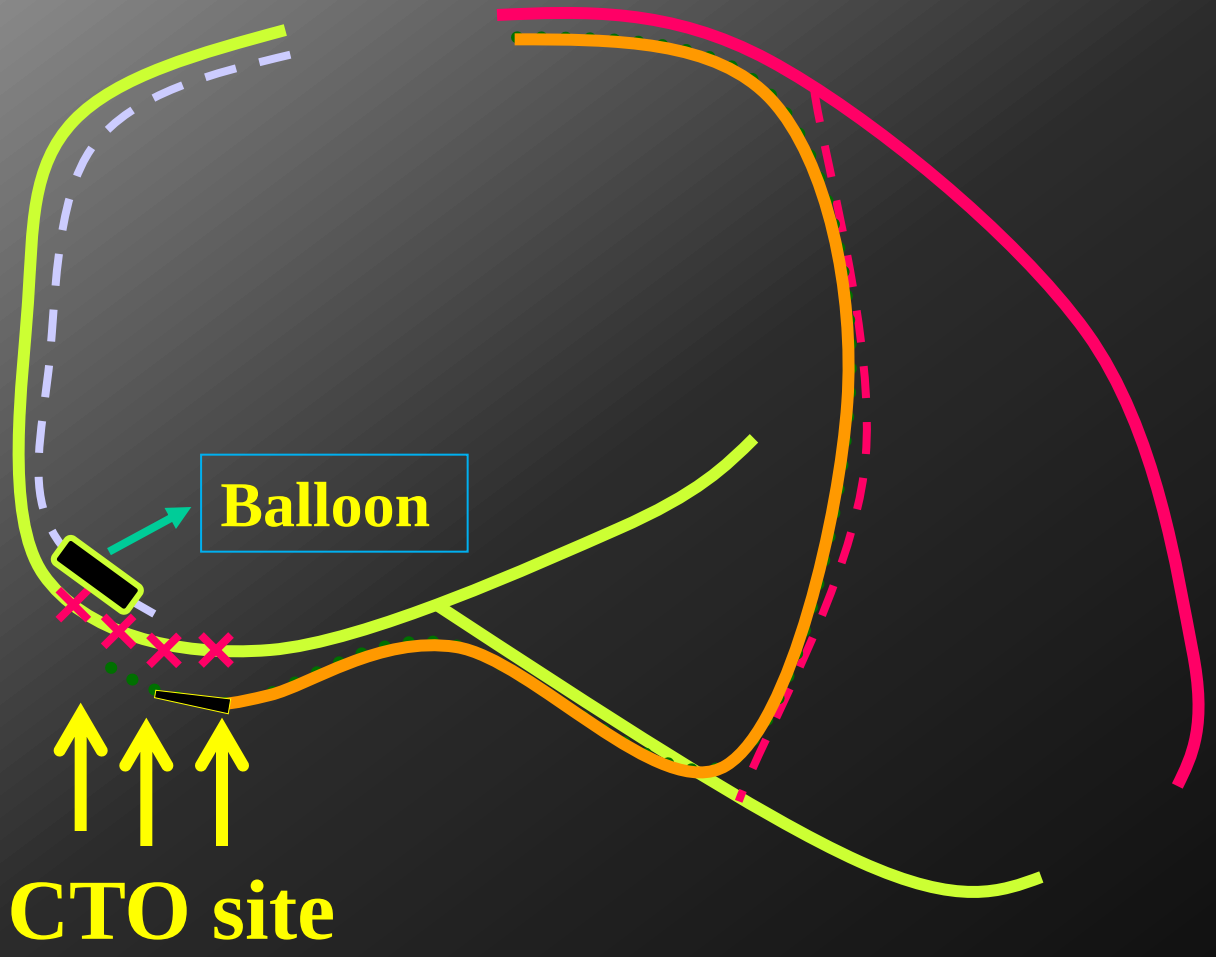
RAO CAU

Basics of Retrograde approach

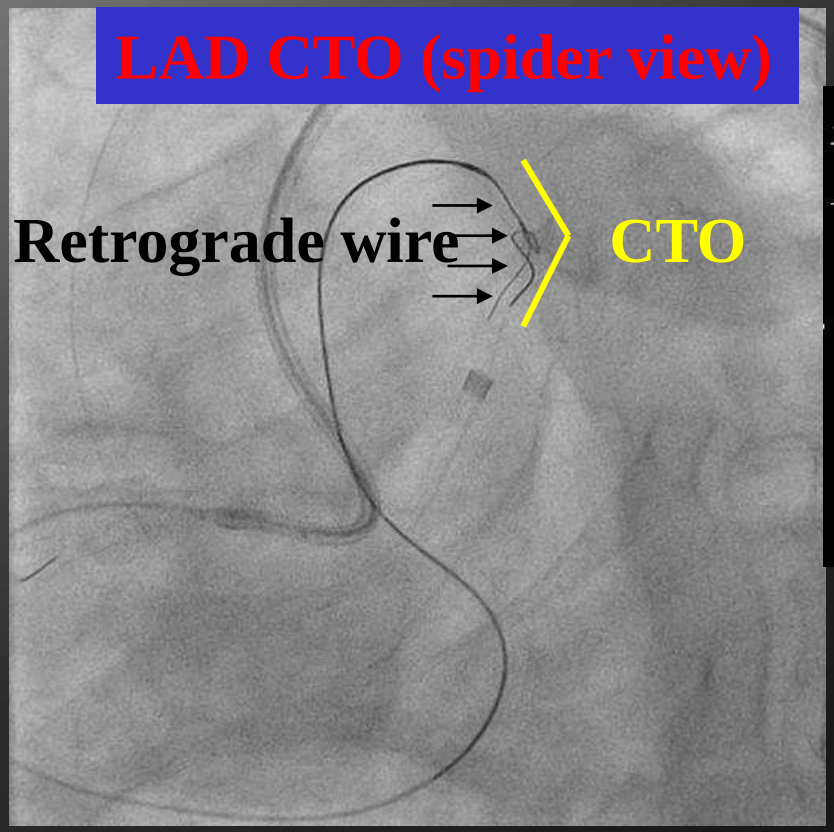
1. Preparation for Retrograde approach
2. Tip and tricks of channel selection
3. Wire crossing

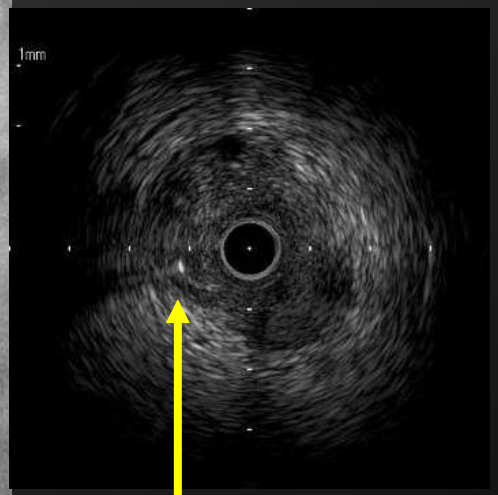
Reverse CART

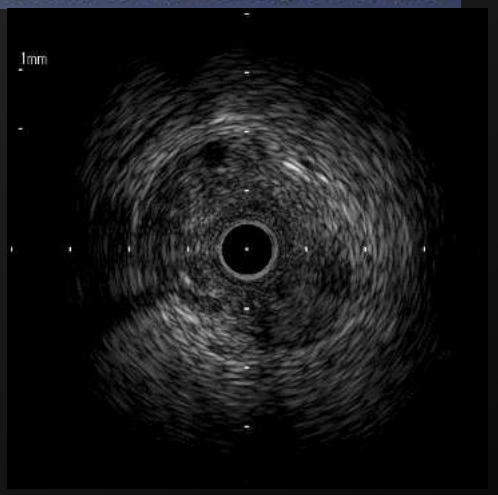
Concept: Antegrade POBA for making connection between antegrade and retrograde



Contemporary Reverse CART

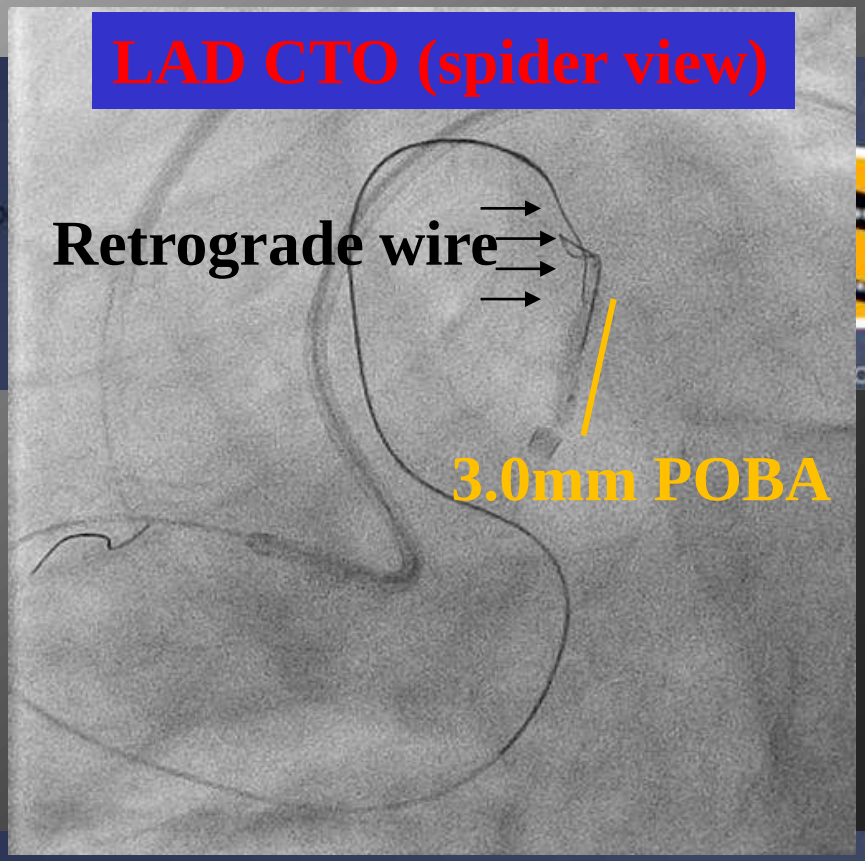


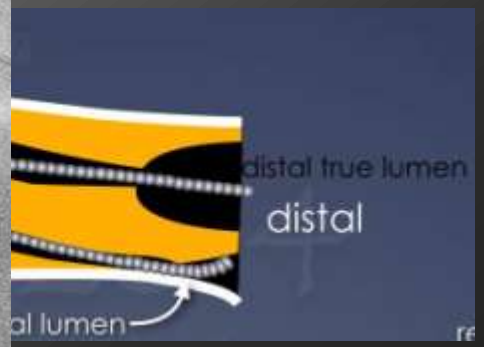


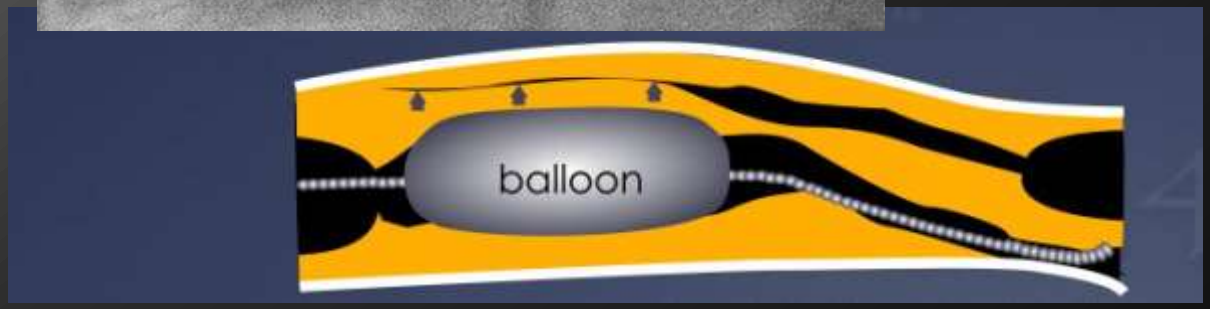


Retro wire is in the plaque

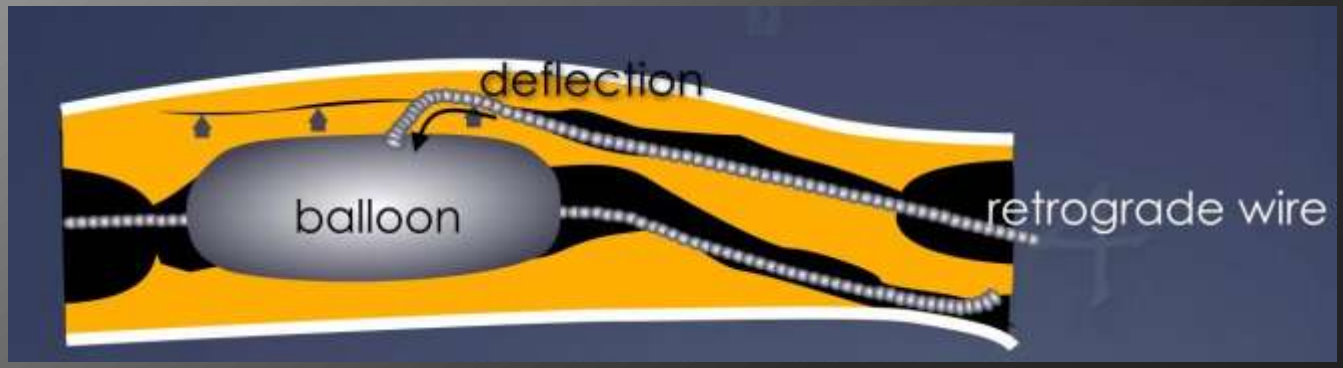
Contemporary Reverse CART

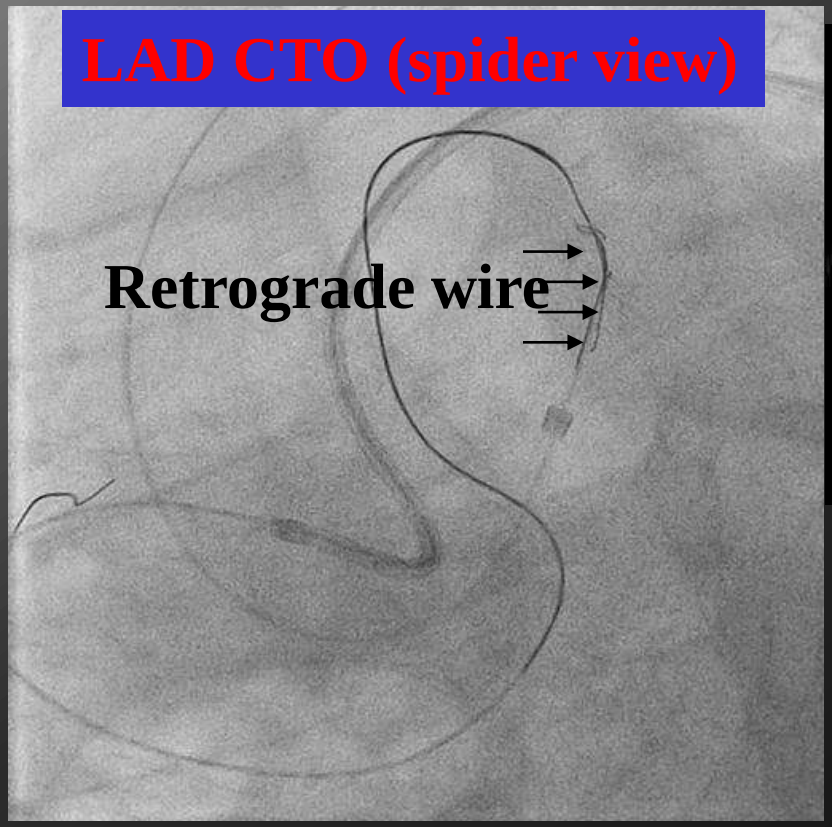


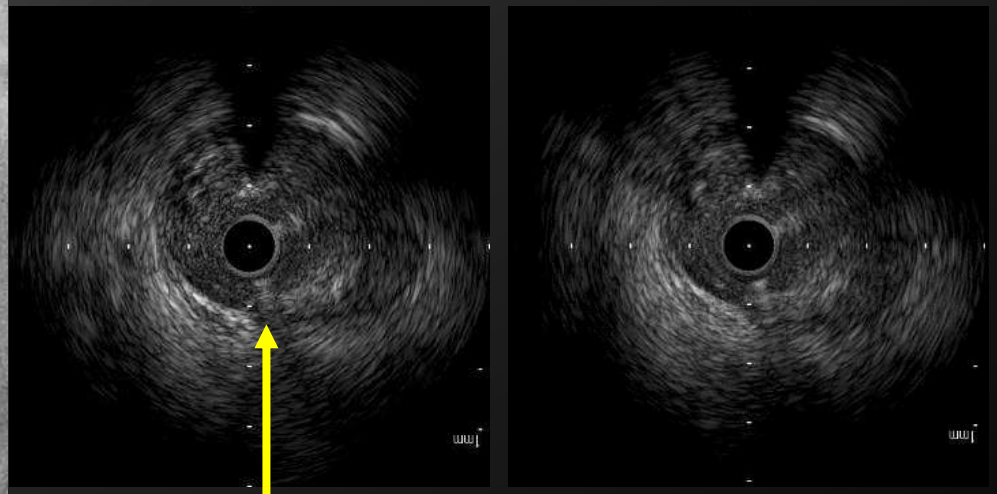




Contemporary Reverse CART

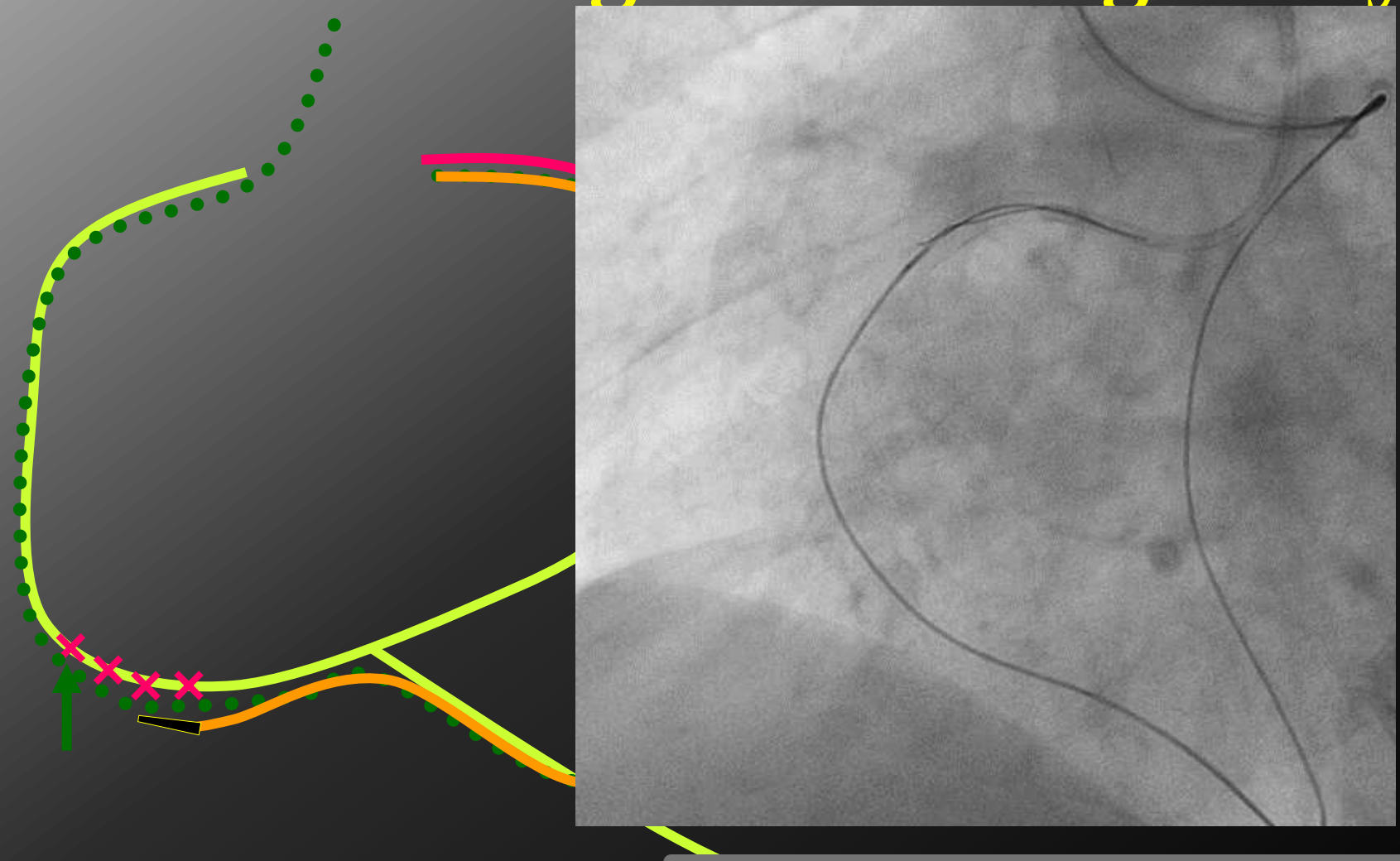






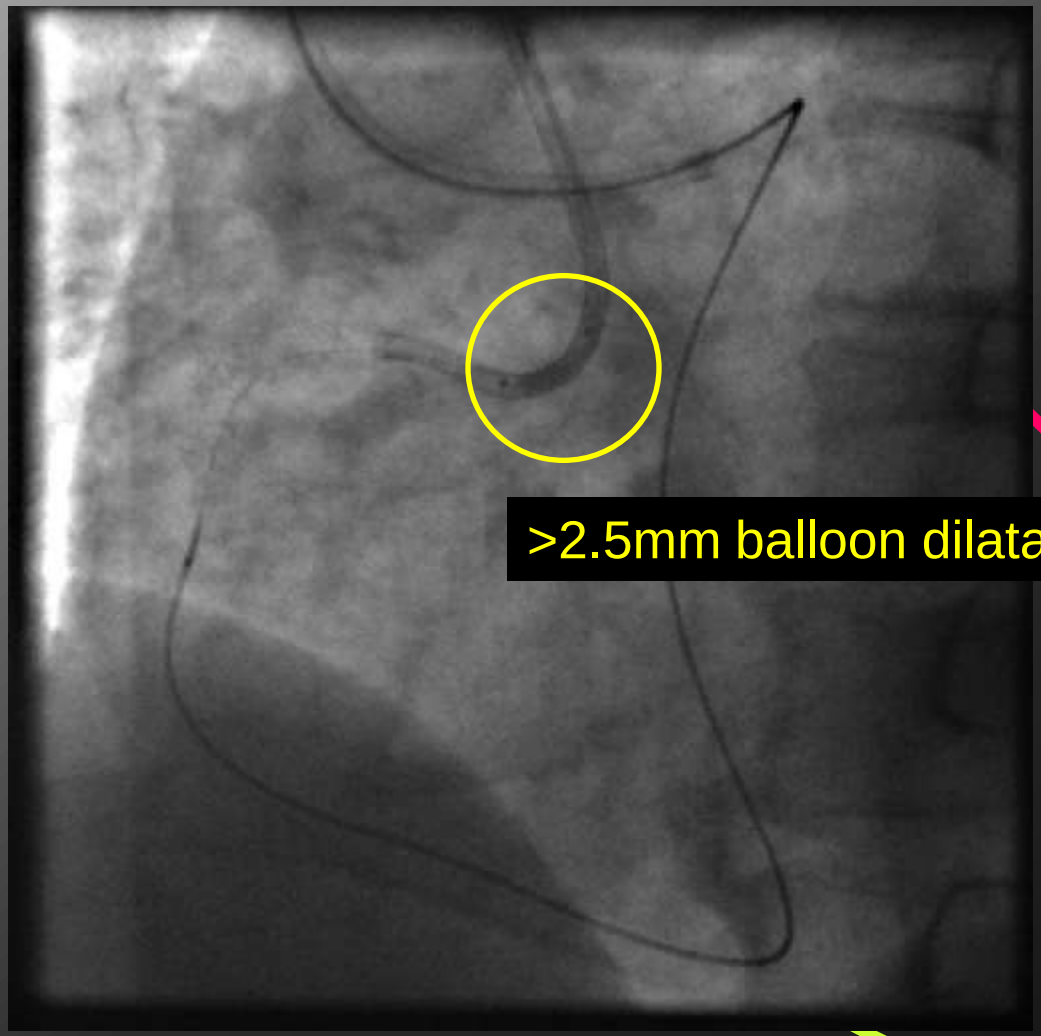
Retro wire is in the same space

Wire crossing from retrogradely



Retrograde wire & microcatheter cross to antegrade GC

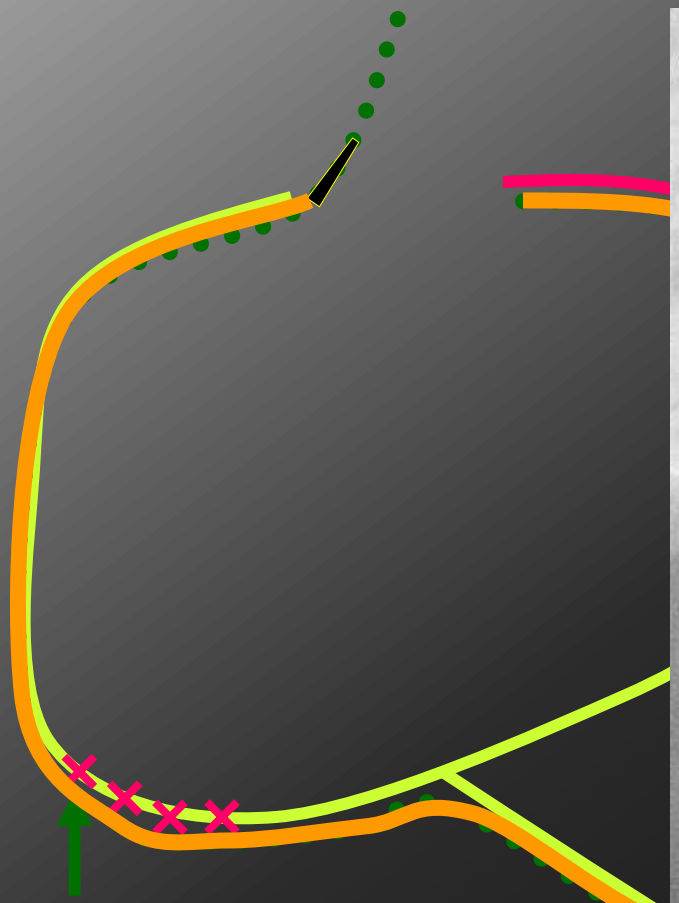
Trapping retro wire in ante GC

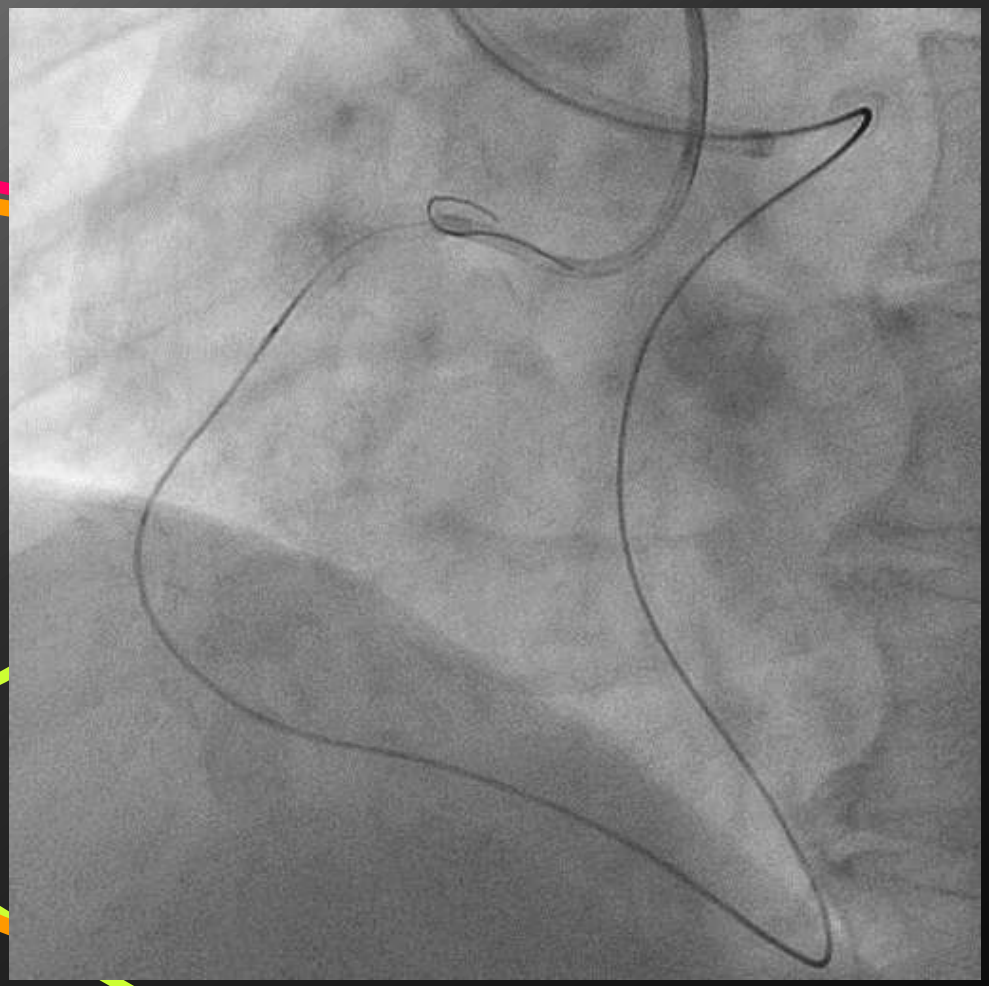


>2.5mm balloon dilatation for trapping retro wire

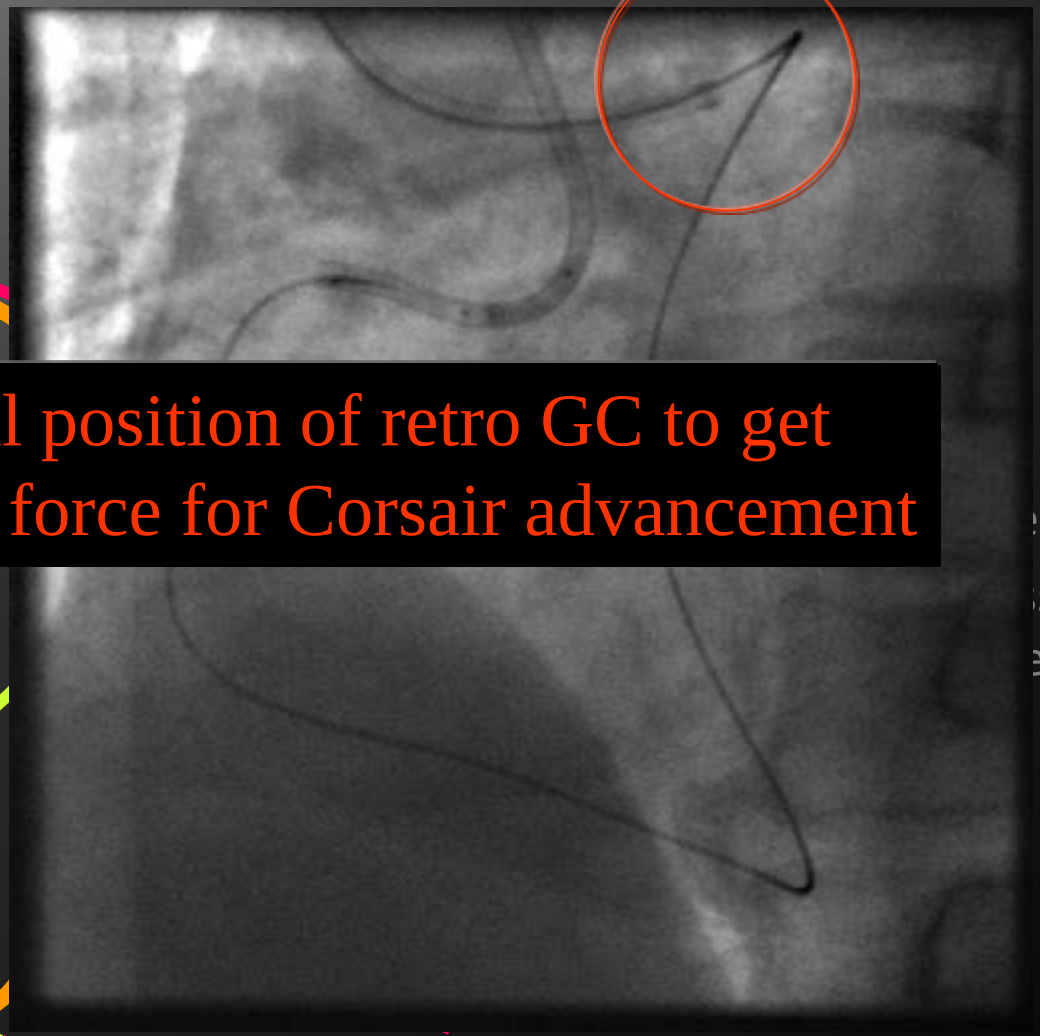
Retrograde wire & microcatheter cross to antegrade GC

Crossing microcatheter

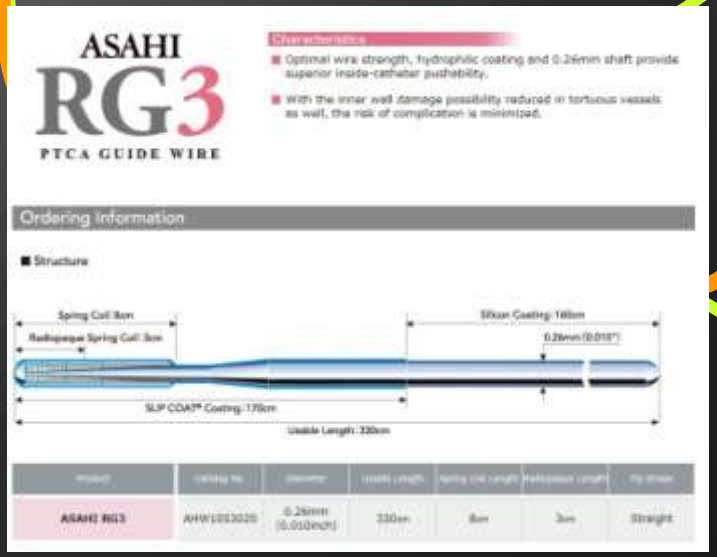




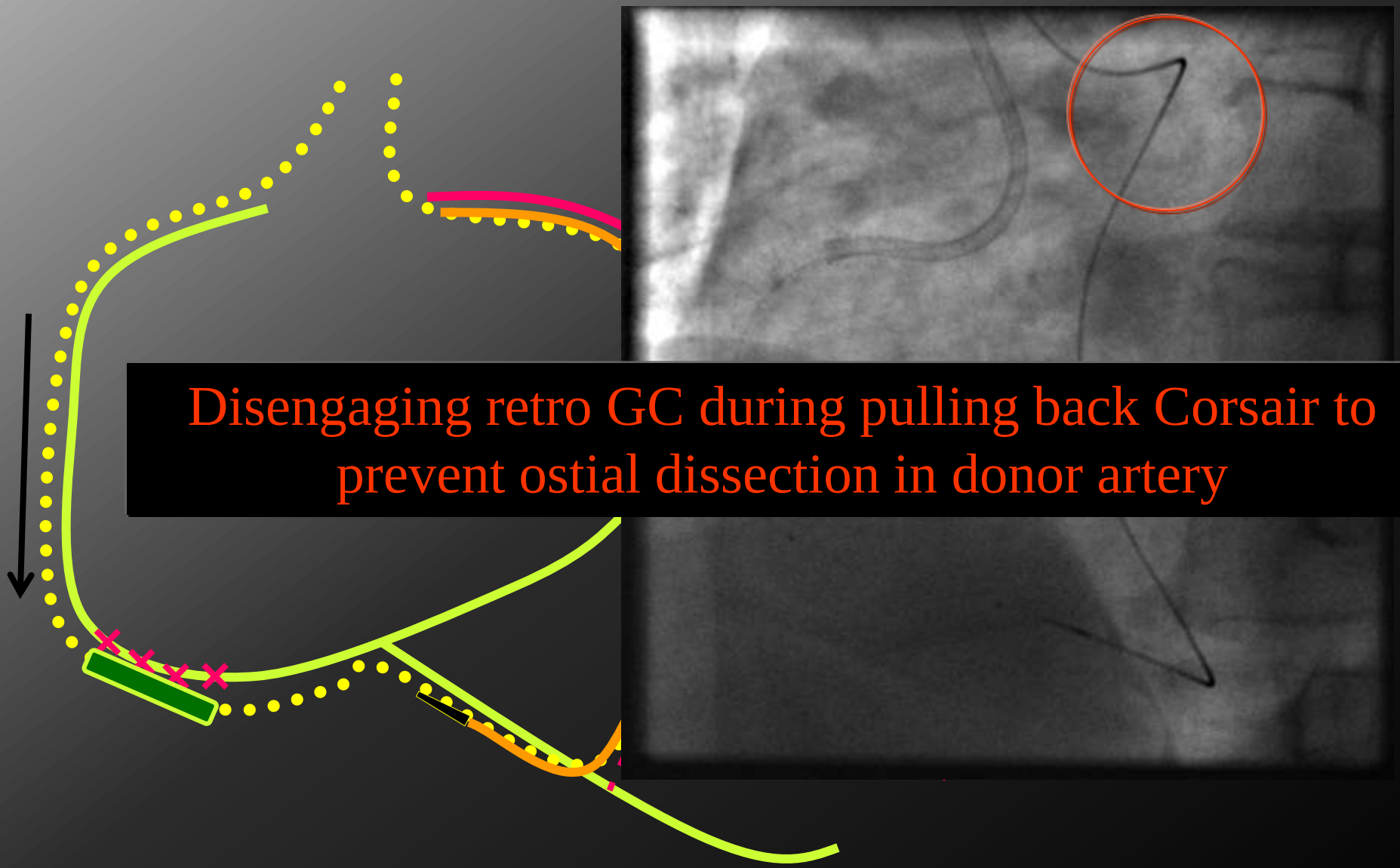
Retrograde wire & microcatheter cross to antegrade GC



Keep coaxial position of retro GC to get strong back-up force for Corsair advancement



Retrograde wire & microcatheter cross to antegrade GC



Disengaging retro GC during pulling back Corsair to prevent ostial dissection in donor artery

Procedure from antegrade

POBA and stenting from antegradely

Never inject from ante GC after Reverse CART!!

Reverse CART

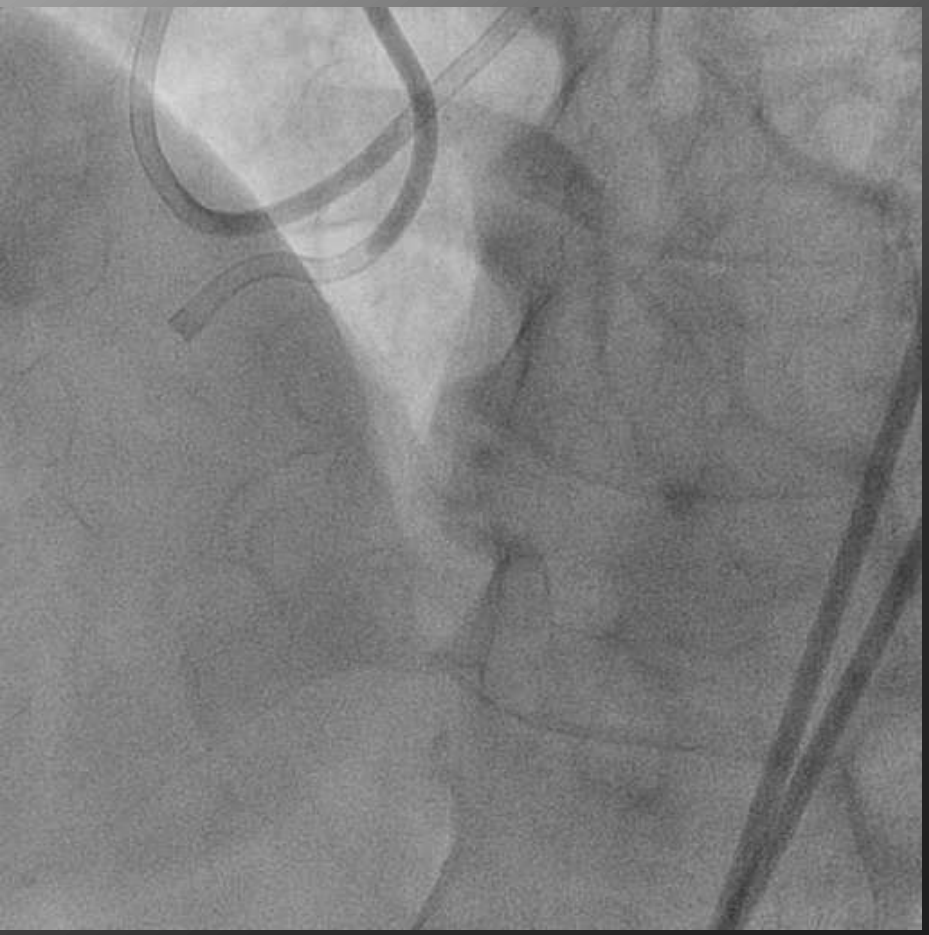
||

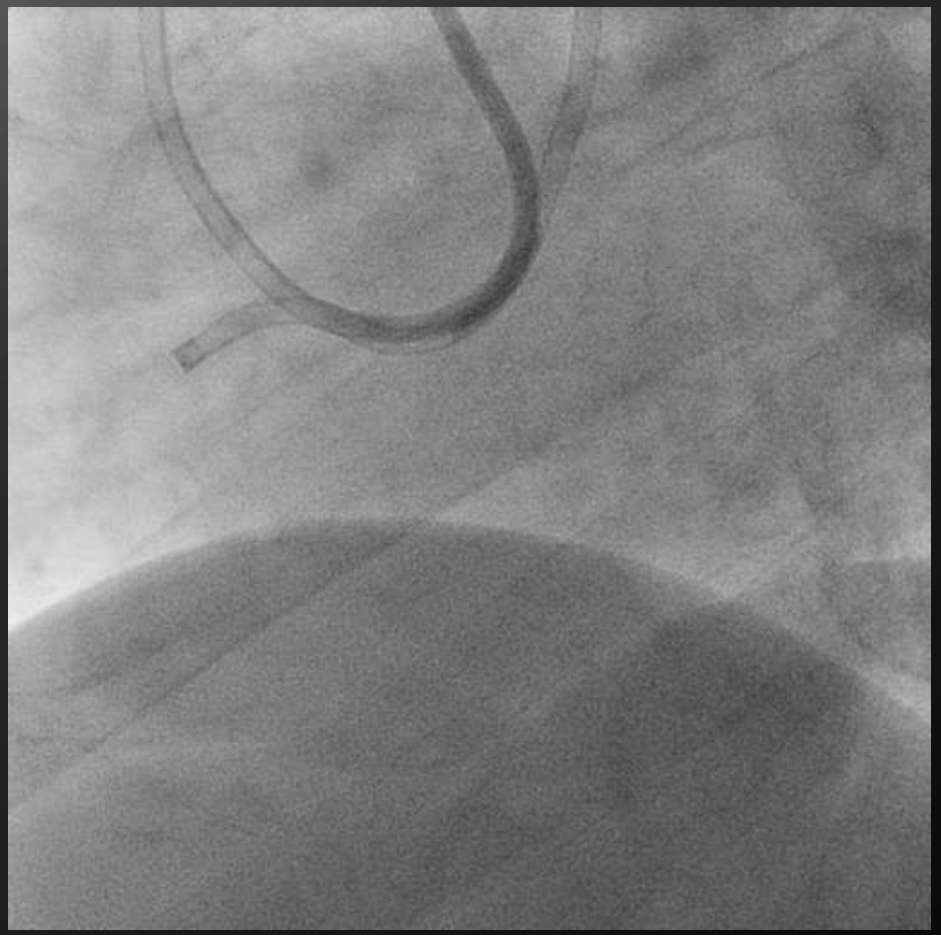
Making connection by POBA

||

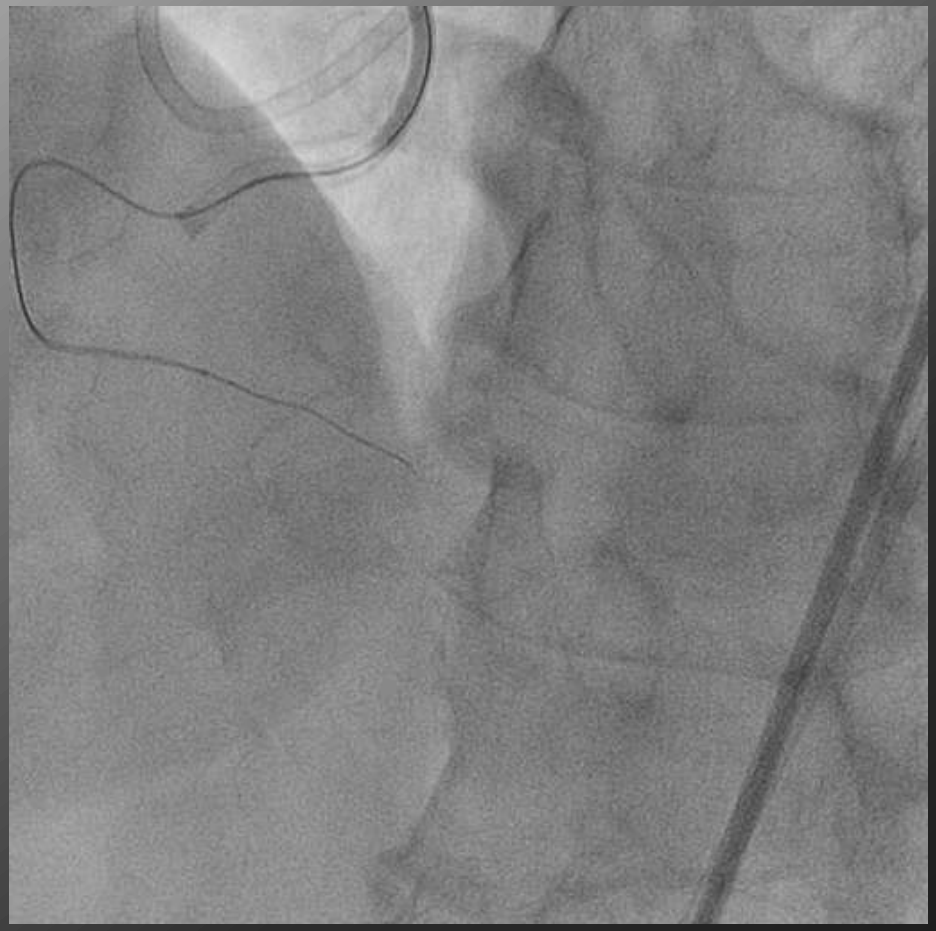
Making dissection (hematoma) in CTO site

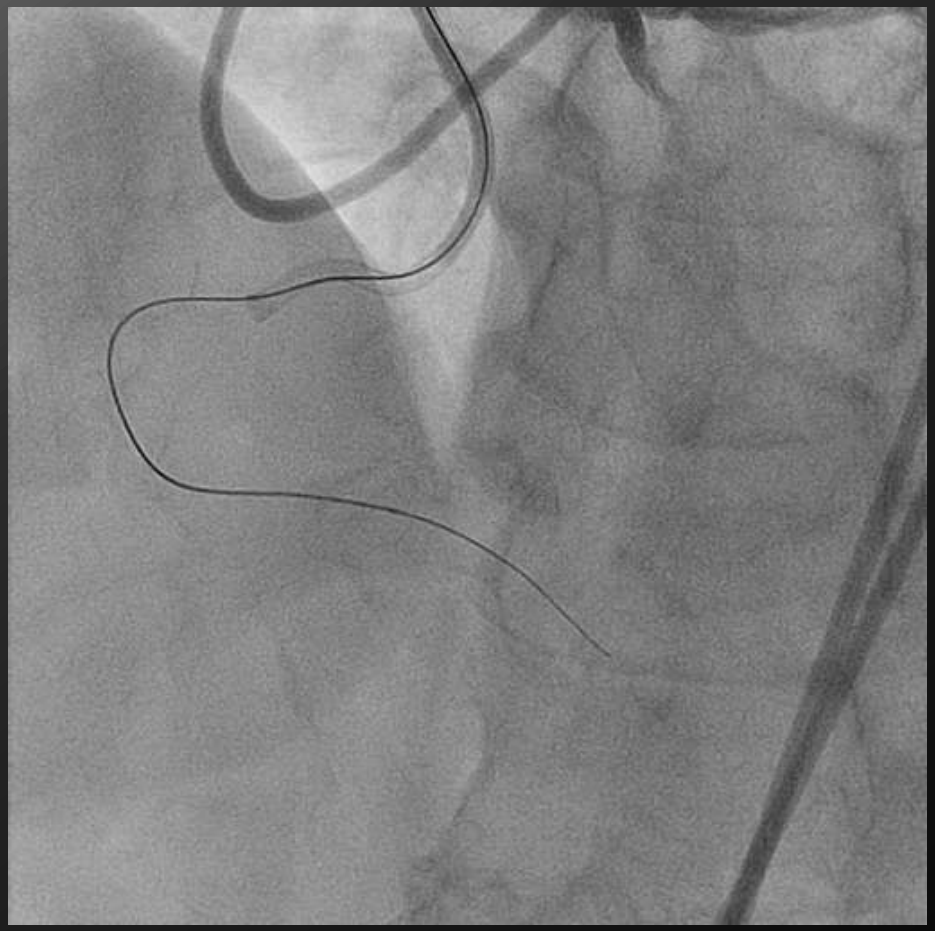
Case 4: RCA CTO treated by Reverse CART





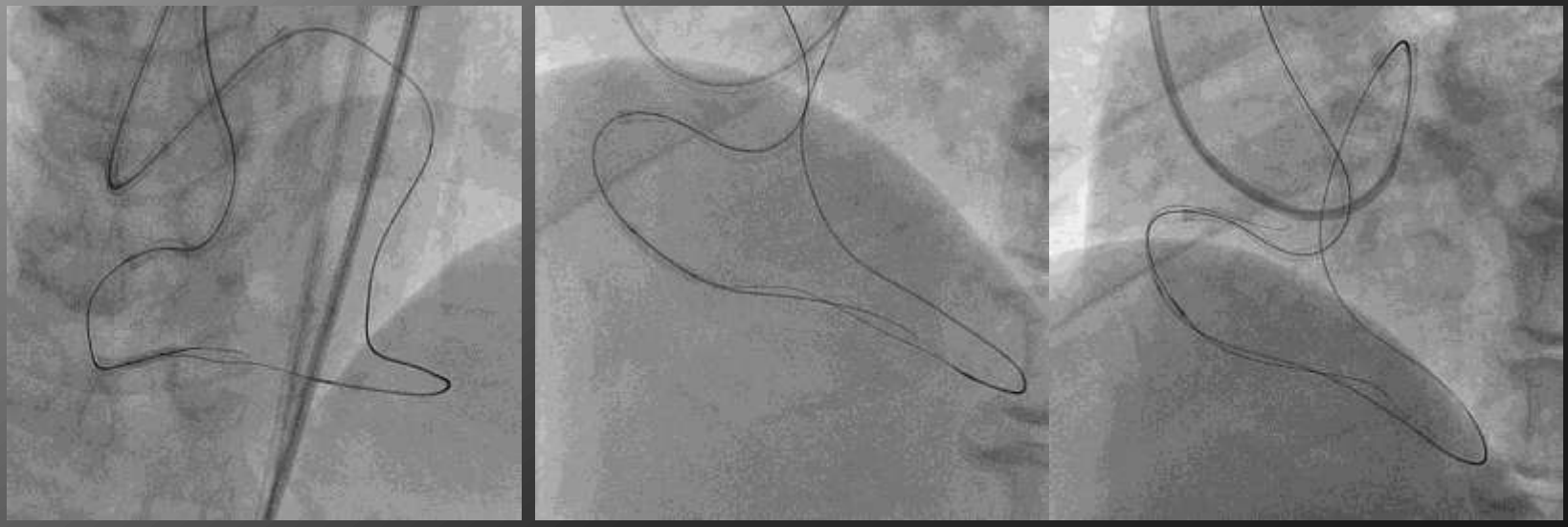
Case 4: RCA CTO treated by Reverse CART



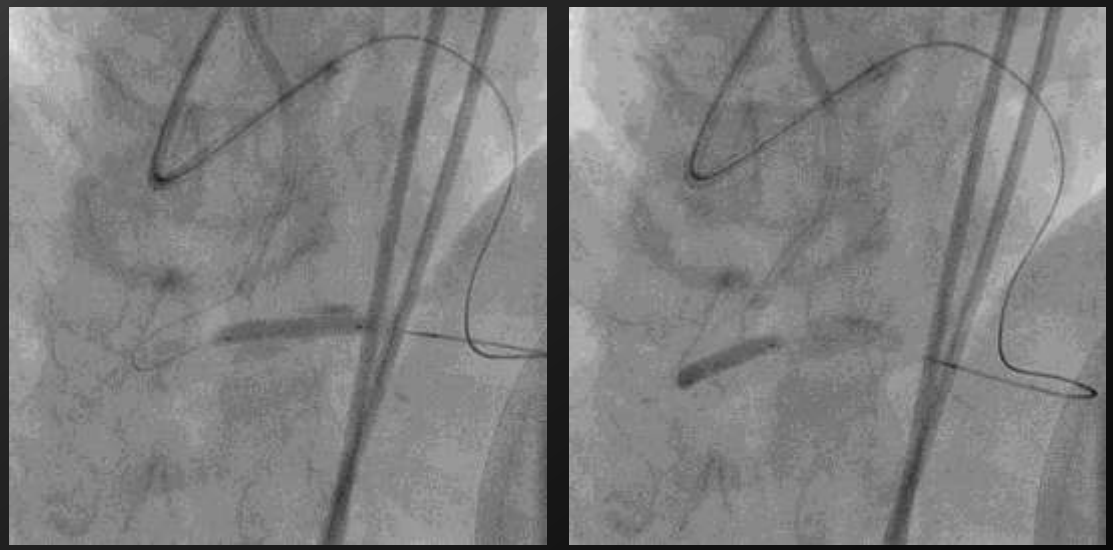


Failure of penetration

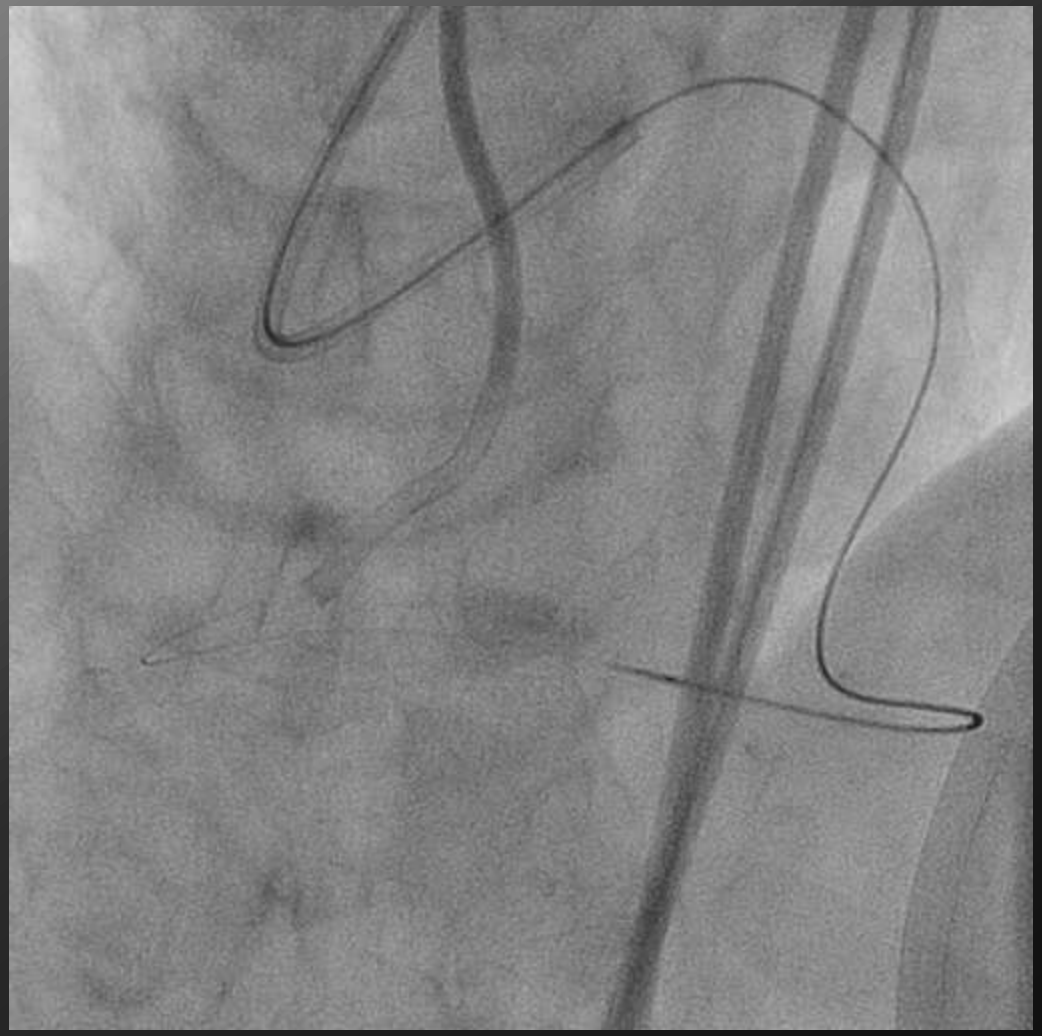
Case 4: RCA CTO treated by Reverse CART

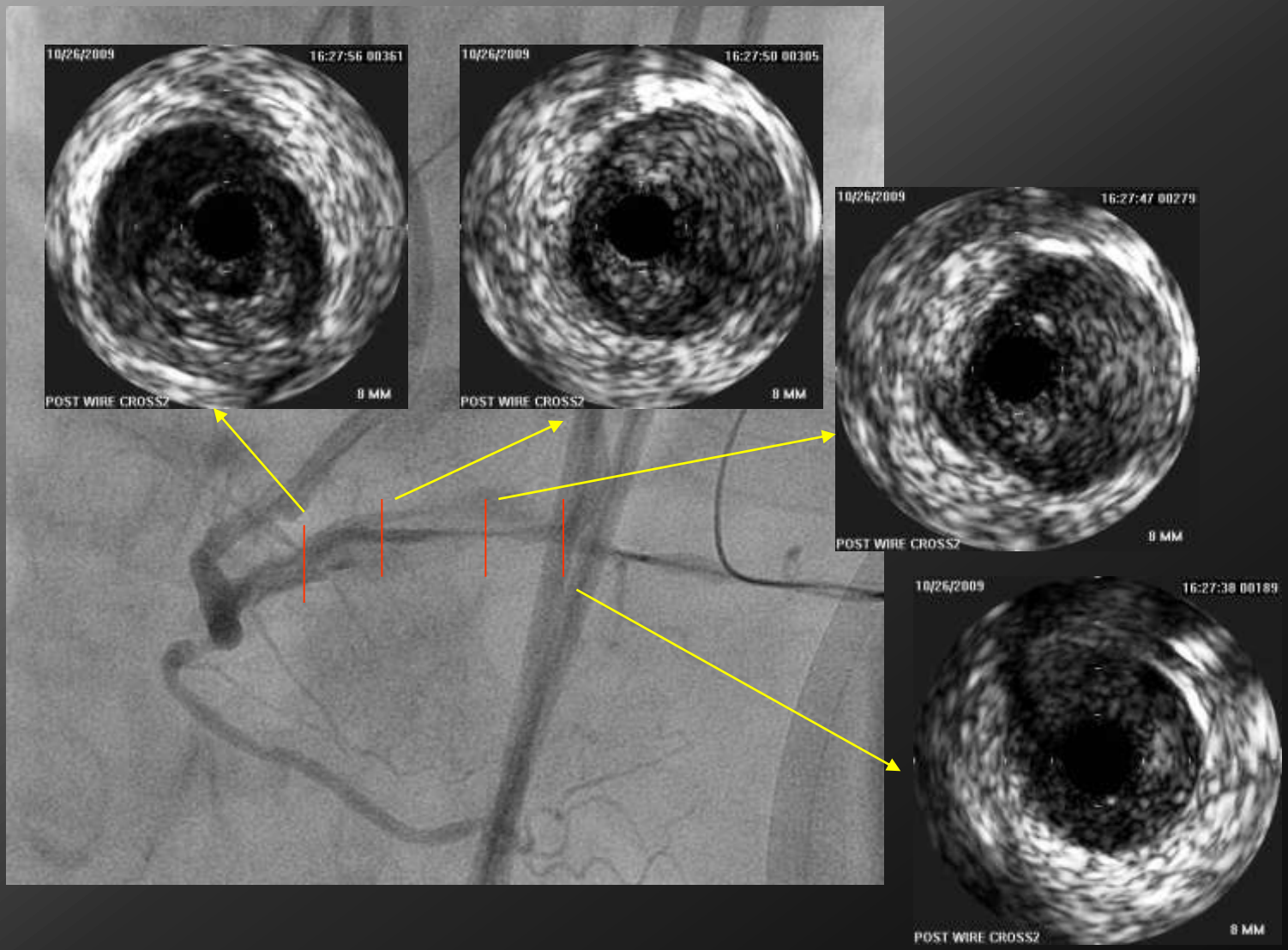


Reverse CART technique

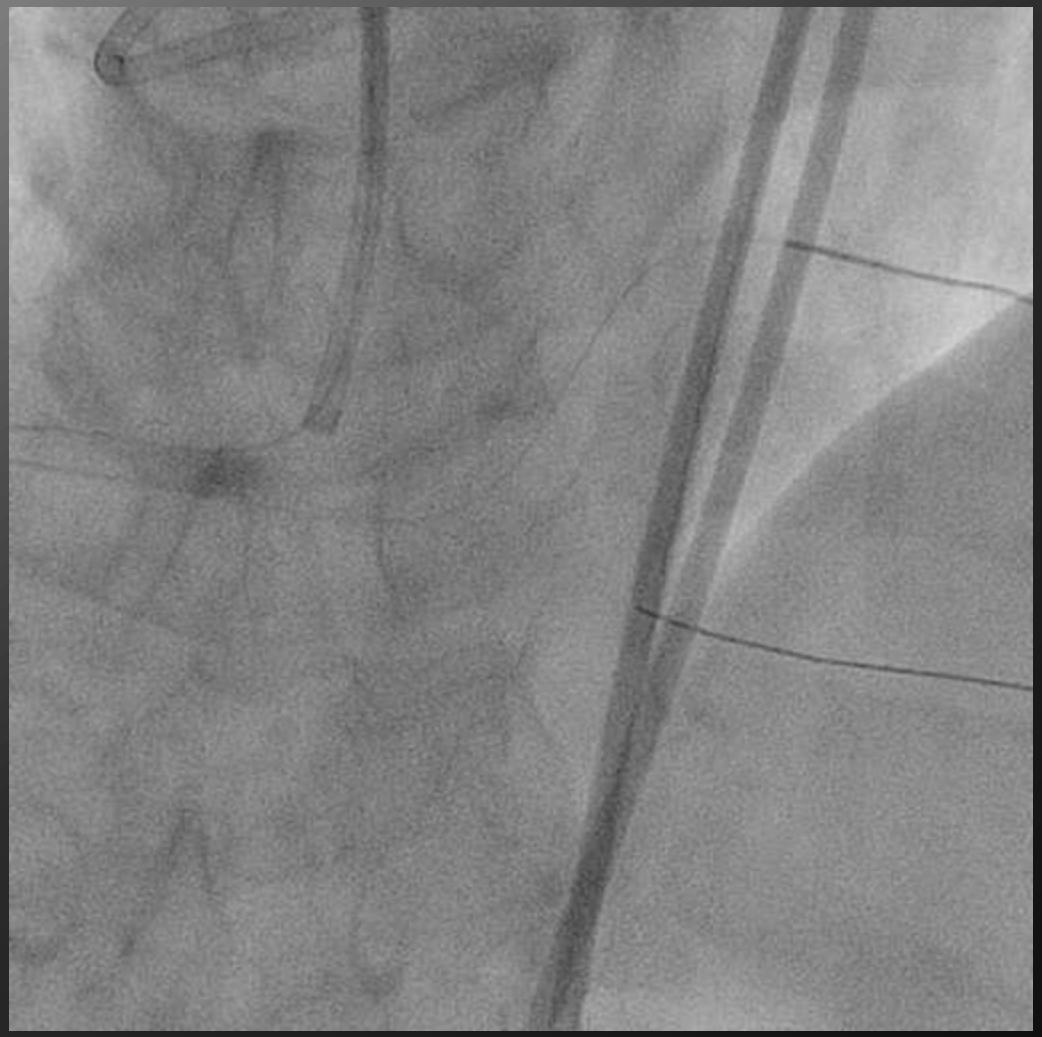


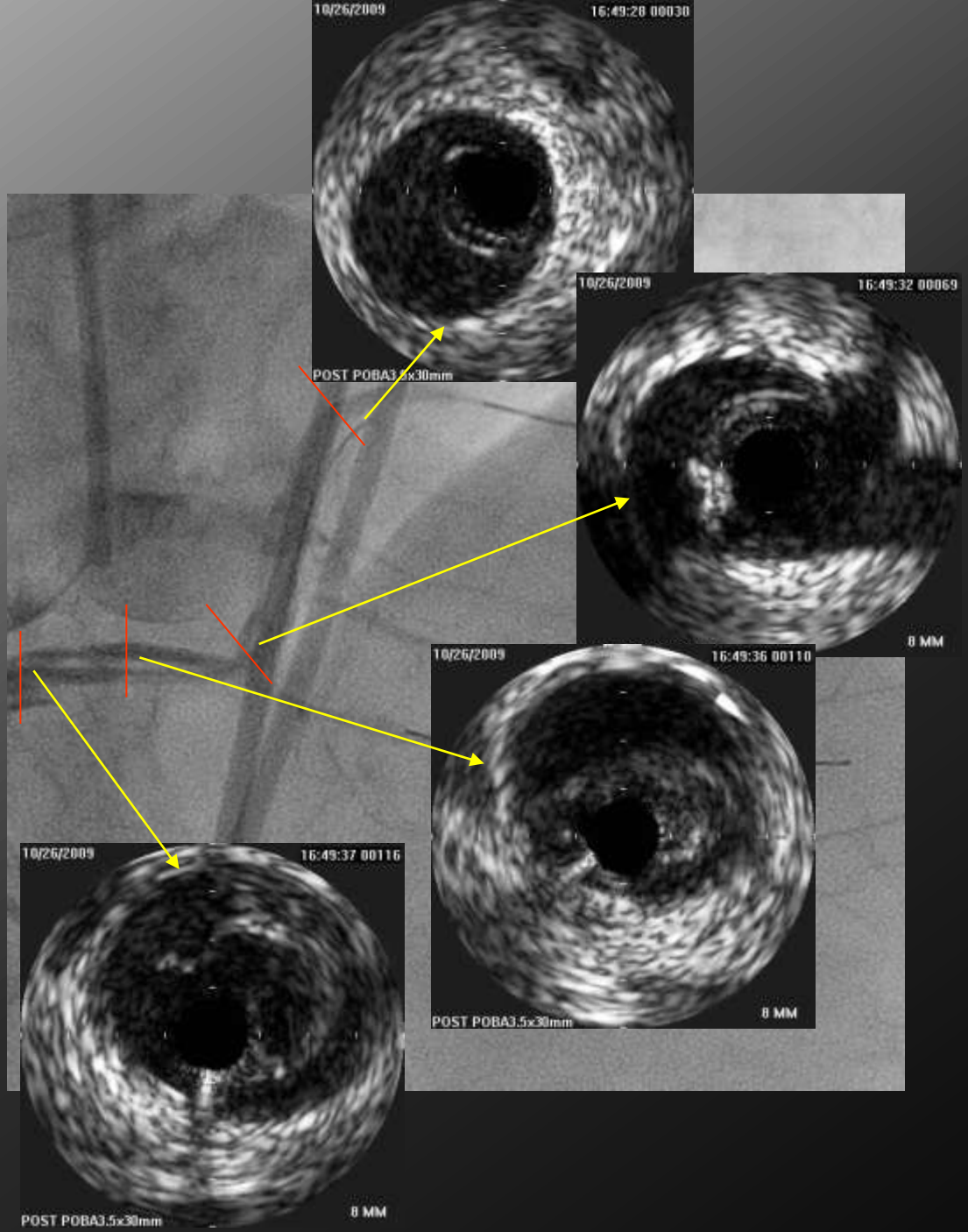
Antegrade injection after GW crossing…



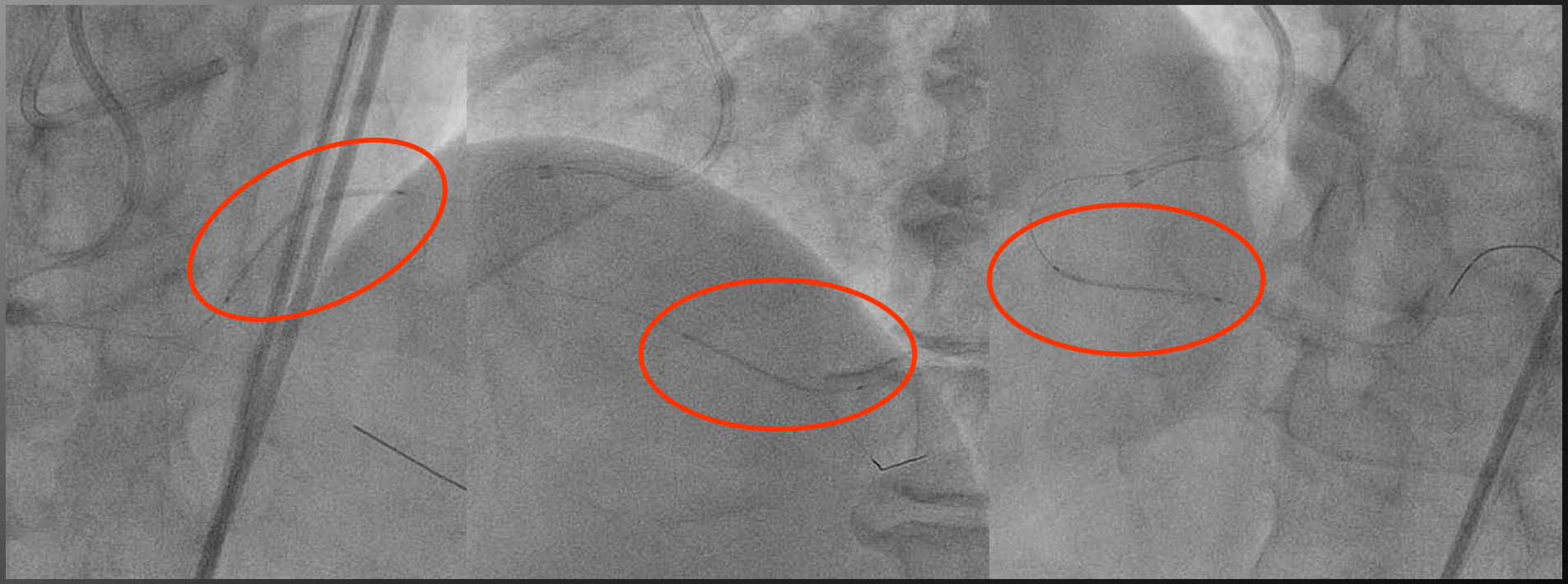

10/26/2009
16:27:56 00361
POST WIRE CROSS2
8 MM
10/26/2009
16:27:50 00305
POST WIRE CROSS2
8 MM
10/26/2009
16:27:47 00279
POST WIRE CROSS2
8 MM
10/26/2009
16:27:38 00189
POST WIRE CROSS2
8 MM

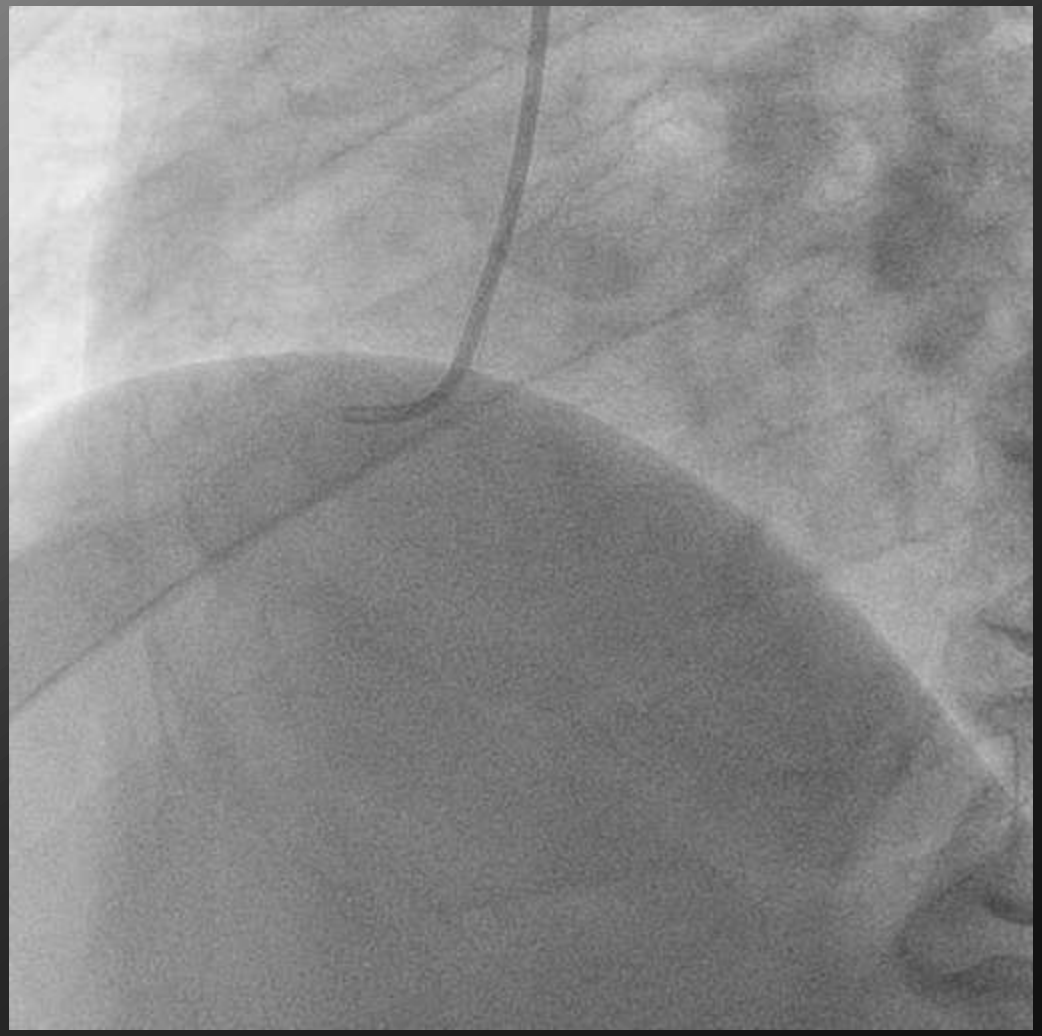
Injection again…




10/26/2009
16:49:28 00030
POST POBA3.5x30mm
10/26/2009
16:49:32 00069
8 MM
10/26/2009
16:49:36 00110
POST POBA3.5x30mm
8 MM
10/26/2009
16:49:37 00116
POST POBA3.5x30mm
8 MM

Stenting from #4AV branch…





Summary

1. ACT should be kept >300sec and flushing saline should be done in retro GC every 10 minutes.
2. Tip injection from >2 angles is important to identify channel morphology
3. IVUS should be used for contemporary Reverse CART to identify the location of retro wire.
4. Strong back-up force of GC system is needed for advancement of Corsair
5. Never inject from ante GC after Reverse CART!!